

ABSTRACT

Title of Dissertation: **GOING TO THE SOURCE: A CASE STUDY OF FOUR FACULTY AND THEIR APPROACHES TO WRITING INSTRUCTION**

Megan Callow, Doctor of Philosophy, 2015

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This dissertation examines four college professors’ approaches to writing instruction in the disciplines of history and engineering. An investigation of writing instruction in two disparate disciplinary contexts contributes to our understanding of how instructors approach writing instruction in the disciplines, and which factors encourage and inhibit writing instruction. This study proposes and assesses the validity of a guiding conceptual framework, which posits that the primary factors influencing faculty’s approaches to writing instruction are academic biography, disciplinary identity, and educational ideology. The study employs a qualitative case study methodology, and data sources include in-depth interviews, field observations, and analysis of documents such as syllabi and writing prompts. This dissertation is founded on a premise that the instructor is an under-studied but essential player in the Writing in the Disciplines

movement. The study reveals more about the nature of discipline-based writing instruction, and proposes a conceptual framework for future research on instructional approaches to disciplinary writing.

GOING TO THE SOURCE: A CASE STUDY OF FOUR FACULTY AND THEIR
APPROACHES TO WRITING INSTRUCTION

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CHAPTER 1: INTRODUCTION

When Composition Studies turned toward a “more dynamic and interactive—or ecological—approach” to learning to write (Russell, 1997, p. 506), scholars started to ask new questions about the spaces in which students learn to write, and who is responsible for creating those spaces. This study enters that conversation by investigating current approaches to writing instruction in two disciplines, and by analyzing some of the factors that shape those approaches. This investigation is important because it addresses how, and where, and why, students are being taught to write in college, and it may offer some insights as to how writing instruction can function better across the university.

Sociocultural theory and research on writing instruction have emphasized learning to write in authentic social and disciplinary contexts. That is, because knowledge is constructed through activity and interaction within specific contexts, advocates of Writing in the Disciplines (WID) and Writing Across the Curriculum (WAC) have argued for a more intent focus on writing instruction within disciplines, where students’ writing experiences would ostensibly be more authentic (Bazerman et al., 2005; Brereton, 2007; Carter, 2007). Consequently, stand-alone composition courses, and first-year composition (FYC) courses in particular, have been cast as a kind of disciplinary no-man’s land, devoid of authenticity (Russell, 1995). The debate about the merits of FYC still continues; some have even broached the possibility of abolishing FYC altogether (e.g., Petraglia, 1995). Yet others question the “uncritical endorsement” of the WID movement, and cite an empirically unsubstantiated presumption that writing is the best or only way to learn disciplinary content (Ochsner & Fowler, 2004, p. 131). This debate is

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further complicated by the ambivalence faculty themselves feel about their ability and responsibility for teaching writing in their disciplines.

The current debate about who is responsible for college writing instruction points to a gap in the research on current approaches to writing instruction. While compositionists discuss how and where and by whom writing instruction *should* be happening in the university, this study investigates the myriad forms of writing instruction that *already* take place within disciplines. Many instructors who do not participate in formal WID programs—indeed, who have never before heard the phrase “Writing in the Disciplines”—incorporate writing assignments into their courses for any number of reasons: as a tool for learning, as a test of understanding and recall, and as preparation for a profession. An investigation of current approaches to writing instruction in the disciplines can offer a new take on the debate about college composition, and may inform institutional models and writing programs across the university by offering some insights as to how and why faculty teach writing the ways they do.

Topic and Purposes

The topic of this study is writing instruction in history and engineering. Much of the empirical research on disciplinary writing trains its gaze on student writing processes and products, but more research is needed on the instructional side of college writing. Bawarshi asks in his book on genre and invention in college writing, “[W]hat happens *to* writers that motivates them to do what they do?” (2003, p. 1) My argument, and the impetus of this study, is that *teachers* happen to student writers. In higher education, instructors determine a novice’s exposure to disciplinary discourse. In any given college course the instructor selects texts, creates and grades assignments, dictates (or implies)

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norms and expectations, and leads classroom discussion. When students produce texts of their own, instructors have the authority to determine if these texts have met discursive expectations (Bourdieu, 1991; Foucault, 1972). If a student's writing does not live up to the norms of the discourse community (as those norms are interpreted by the instructor), then students experience social and academic consequences (Johns et al., 2006).

Considering these stakes, researchers must pay closer attention to the role the instructor plays in students' development of disciplinary literacy.

Ochsner and Fowler write that, "Crucially missing from WAC/WID theory is a clear indication of what it means to teach writing" (2004, p. 134). The higher education instructor is a figure who has powerful influence over undergraduates' development of literacy (Bawarshi, 2003), yet burgeoning research demonstrates that faculty in the disciplines have complex attitudes about teaching writing (Salem & Jones, 2010; Zhu, 2004), and often resist or resent doing so (Boice, 1990; Donahue, 2002). Not enough is known about how discipline, attitudes, or other factors shape instructional approaches. A primary purpose of this study, then, is to address the gap in researchers' understanding about disciplinary faculty's approaches to teaching writing in their courses.

A secondary goal of this study is to understand the complexity of approaches to disciplinary writing instruction through the application of an orienting conceptual framework, which systematizes the factors influencing instructional approaches. An examination of a disciplinary instructor's influence on student writing is complicated for a number of reasons. One of the difficulties lies in the very theory that gives birth to a study like this in the first place. According to sociocultural perspectives, learning is situated and historical. Just as students carry with them histories and ideologies, so do

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instructors. Bizzell argues that a “professor’s personality and values” are inevitably a part of any classroom interaction (2009, p. 186). I argue that these values must be understood through a thick and descriptive portrayal of instructional approaches.

A nuanced understanding of approaches to writing instruction is further complicated by the fact that faculty have become experts through a long immersion in their disciplines, and remain only tacitly aware of some of the literacy practices that comprise their expertise (Elton, 2010). With regard to writing, Russell explains, “A discipline uses writing as a tool for pursuing some object. Writing is not the object(ive) of its activity. Thus, writing tends to become transparent, automatic, and beneath the level of conscious activity for those who are thoroughly socialized into it” (1995, p. 70). Researchers must remain cognizant of the possibility that literacy practices may have become, over a long period of enculturation, transparent to instructors, and that the tacit nature of disciplinary practices and methods likely affects the extent to which they teach writing explicitly or implicitly.

Salem and Jones encourage more research about the “attitudes toward writing, teaching writing, and faculty life that faculty themselves bring with them” to their teaching, but they warn against the wide array and complexity of these attitudes, and researchers’ potential instincts to oversimplify them (2010, p. 60). To make sense of such complexity, this study proposes and tests the utility of a conceptual framework designed to capture the factors that may shape instructional approaches to writing.

How discipline affects an instructor’s view of writing is one important question, but this conceptual framework investigates some of the other factors at play. What is the influence of an instructor’s own academic history on writing instruction? How do

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instructors' beliefs about higher education play a role? Does institutional context facilitate or constrain instructors' writing instruction? My goal is similar to Deborah Britzman's, in her poststructuralist study of pre-service teachers: "My concern is in understanding what they make happen because of what happens to them and what it is that structures their practices" (2003, pg. 70).

A tertiary purpose of this study is to provide support for the argument that literacy practices are woven into all disciplinary practices. All disciplines have their own communicative, linguistic, and textual conventions, and as Bazerman writes, "The underlying epistemology, history, and theory of a field cannot be separate from its rhetoric" (1988, p. 323). Universities have a strong need, therefore, for what Beaufort (2007) describes as "instruction that explicitly move[s] students progressively toward more complex and more expert writing performances as they pursue their major fields of study" (p. 15). This study makes the case that a better understanding of the unique literacy practices within disciplines, and how those practices are taught, will make a strong contribution to the streams of WID research concerned with discipline-specific knowledge and discourse.

An overarching goal of this research, then, is to argue that disciplinary writing instruction is not solely a matter of increasing the number of writing assignments across disciplines, but is rather a matter of bringing writing instruction "to a level of conscious activity" (Russell, 1995, p. 70)—conscious for researchers, for university administrators, and for faculty themselves. The existence of disciplinary writing instruction is not a matter of debate in this study; students are required to write, and sometimes write a lot, in many of their college courses. The *nature* of that writing instruction is of interest here.

Potential Significance

This research contributes to a systematic understanding of how and why instructional approaches vary across classrooms and disciplines by means of an in-depth multiple case study of faculty in history and engineering. This study opens a window into the instructional practices of disciplinary faculty who have neither undergone training in writing instruction, nor are affiliated with formal, university-sponsored WAC or WID programs. Also, this study determines the utility of a framework for analyzing approaches to college writing instruction, and the factors that facilitate or inhibit it.

This research has programmatic implications as well. This study provides a clearer picture of what university administrators, writing program administrators, and faculty development specialists have to work with as they attempt to improve writing instruction at their institutions, both in the disciplines and in composition programs. Understanding disciplinary faculty's existing instructional practices and the factors that shape them may help college administrators document instructional practices across disciplines. Departments that can identify and catalogue the writing being assigned within their courses may be better able to empirically demonstrate how major, accreditation, and university outcomes are met (e.g., most universities identify communication and writing as a general education standard).

Moreover, a framework for understanding the factors that influence writing instruction may provide models for university writing programs and faculty development programs that seek to better support faculty who want to improve their writing instruction. As I have described above, this study has potential significance in that it contributes to a small but growing body of literature on writing instruction in college disciplines; it refines theory about how instructors approach writing instruction; and it has

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practical implications for faculty and program administrators who seek to improve writing instruction at their institutions.

Conceptual Framework and Research Questions

Based on a review of literature on writing instruction, I constructed a conceptual framework to characterize writing instruction and to explain its influences. This framework guided data collection and structured my findings. It identifies three primary factors as influences on instructional approaches to writing: instructors' *academic biography*, *disciplinary identity*, and *educational ideology*.

Academic biography is a variable that refers to the formative experiences faculty had when they were undergraduates and graduate students, and developing expertise in their fields. This category helped to uncover the aspects of participants' education that appeared most salient to their current approaches to writing instruction; these aspects include academic struggle, influential teachers and mentors, attraction or connection to the discipline, and learning to write in the discipline. Disciplinary identity refers to participants' self-perceptions as practitioners in their field. This category includes data that illustrate participants' views of the typical textual genres of the field, the discipline's epistemologies and methods, and participants' own writing practice. Educational ideology accounts for the faculty's beliefs about the purposes of an undergraduate education and their own perceived roles in their students' education. Because the framework was developed for purposes of exploring and clarifying the phenomenon of instructional approaches to writing, inductively derived themes may also play a role in analysis and contribute to the refined model.

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The research questions, listed below, reflect the multi-pronged purpose of this study. The first question addresses faculty's approaches to writing instruction in their courses. The second question and its sub-questions refer to the study's conceptual framework and the specific variables that make it up (including inductively derived ones). The final question asks about the utility of the framework for research of this kind.

1. How do faculty in history and engineering approach writing instruction within their disciplines?
2. What are the primary factors that influence their approaches to writing instruction?
 - a. How do their own academic histories shape their approaches to writing instruction?
 - b. How do their identities as disciplinary practitioners (i.e., as historians and engineers) shape their approaches to writing instruction?
 - c. How do their views of the purposes of undergraduate education in general, and of their disciplines in particular shape their approaches to writing instruction?
 - d. What, if any, other factors influence faculty's approaches to writing instruction?
3. In what ways does the conceptual framework developed for this study account for or fail to account for these faculty's approaches to writing instruction in their disciplines?

Potential Contributions of This Study

This study contributes to college writing research in a number of ways. It documents the discursive experiences and practices of teachers in two epistemologically disparate disciplines, and explores how these experiences and practices influence their approaches to literacy instruction. The choice of disciplines helps to show whether and

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how instructional approaches vary by field, and the conceptual framework helps to decipher how these approaches developed. Through its in-depth examination of four faculty who taught seven courses over a semester, this study provides a launching point for future research of its kind.

Organization of the Study

This study is organized into eight chapters. This chapter provides an overview of the topic and a rationale for the project; it explores potential significance for this research; and it presents the central phenomenon of interest along with the research questions that guide the investigation. Chapter 2 reviews the relevant strands of theoretical literature and empirical research that inform this study, and it expands on the orienting conceptual framework. Chapter 3 describes my approaches to the case study method, the design of this study, and the ways that the conceptual framework helps to organize data collection, analysis, and reporting. Chapters 4, 5, 6, and 7 describe and analyze each of the four cases, respectively. The first two cases are of faculty in history; the second two portray faculty in engineering. Chapter 8 presents a cross-case analysis of the history and engineering cases; it also presents conclusions and proposes refinements to the theoretical model.

CHAPTER 2: REVIEW OF THE LITERATURE

This review begins with an explanation of sociocultural learning theory, a paradigm that strongly influences much of the research on writing (Prior, 2006). I begin with an overview of sociocultural learning theory, which is the theoretical grounding of this study. I then trace the line of research that identifies language as an important tool for actively building knowledge, and that designates discourse communities—like disciplines— as sites where common languages are used to achieve common goals. I then narrow my focus to the instructor, and make the case that more research on disciplinary writing instruction is needed. I present my orienting conceptual framework and explain the three primary factors that I have identified as having a particularly strong impact on instructional approaches to disciplinary writing. Finally, I present some of the extant literature on college writing instruction in history and in engineering, in order to provide a research context for the two disciplines in which I am situating this study.

Sociocultural Learning

Sociocultural theories of learning provide the “dominant paradigm” for most lines of writing research today (Prior, 2006, p. 54). Most sociocultural theorists across social scientific fields attribute the origin of this broad theory to Lev Vygotsky (Englert, Mariage, & Dunsmore, 2006; Ford & Forman, 2006; Prior, 2006; Roth & Lee, 2007; Russell, 1997; Spinuzzi, 1996; Zuengler & Miller, 2006), whose work attempted to show that people are “continually shaping and being shaped by their social contexts” (Roth & Lee, 2007, p. 189). Bruffee (1986) helps explain the sociocultural approach by comparing it to a cognitivist perspective of learning. He observes that while a cognitivist perspective conceives of knowledge as universal, foundational, and structured, social constructions of

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knowledge assume no such foundation. A social conception of knowledge implies a social, interactive conception of learning: knowledge is constructed—not memorized or internalized— through interaction with texts, activities, and members of communities. The sociocultural paradigm provides the broad theoretical backdrop for this study in that it explains assumptions that the faculty-participants’ develop their knowledge, roles, and attitudes through interaction with their contexts.

The idea that knowledge is constructed in community has helped give birth to theories of many names and across many disciplines. For our purposes, sociocultural learning theory grounds the argument that literacy practices are not simply a set of isolated skills, but are tools that can reveal and advance learners’ knowledge, and can simultaneously solidify one’s role within a community or context (Moje, Luke, Davies, & Street, 2009). What is more, a sociocultural conception of writing posits that context integrally shapes writing practices and genres (Greene, 2001), and this notion helps illuminate the importance of an investigation of writing instruction within two disciplinary contexts. I trace two particular strands of sociocultural theory in order to ground this research: the notion that language and discourse are essential to learning, and that thinking and behavioral (including textual) practices differ across disciplines.

Discourse and Community

Vygotsky emphasized that language is one of the primary vehicles through which people form concepts and construct knowledge (1934/1986, p. 218; see also Roth & Lee, 2007). Attempting to refute the stimulus-response theories of his behaviorist contemporaries (Kozulin, 1985), Vygotsky wrote: “The use of signs leads humans to a specific structure of behavior that breaks away from biological development and creates

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new forms of a culturally-based psychological process” (1978, p. 40). In other words, learning is not only cultural and social, but language is an essential tool for interaction. Fulwiler (1982) offers an elegant formulation of this idea: “Language makes learning, as we know it, possible” (p. 17). Ford & Forman (2006) say that learning, according to the Vygotskian, consists of three main components: social interaction, semiotic or symbolic communication, and the use of tools (which can be physical, like pencils and desks, or symbolic, like rituals and gestures). Thus knowledge is not something that is transmitted or consumed, but gets created through interaction and communication.

Much of literacy research follows this line of thinking. In his studies of *discourse*, linguist James Gee (1999) describes the “different ways in which we humans integrate language with non-language ‘stuff,’ such as different ways of thinking, acting, interacting, valuing, feeling, believing, and using symbols, tools, and objects in the right places and at the right times...” (p. 13). A key characteristic of discourse is that it happens “in the right places and at the right times;” the “rightness” of time and place indicates that discourse seeks to accomplish certain goals. Discourse is enacted in specific contexts, like cultures and communities: doctors’ offices or churches, a tight-knit group of friends or an Internet listserv devoted to a basketball team.

Another key distinction of discourse is that it both manifests and maintains a community’s values while, at the same time, helping to shape them anew (Bizzell, 2002; Hyland, 2009). The reproductive nature of discourse—that its conventions are repeated but also innovated—make it a useful object of investigation in research because a study of discourse can help to show how certain communities define themselves and also how these definitions fluctuate through textual practices. Part of working within a disciplinary

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community means reproducing time-tested genres, but it also involves pushing the boundaries of what is accepted, and adapting older genres to modern contexts.

Hyland (2009) furthers our understanding of the notion of community and helps create a concrete context for the otherwise abstract notion of discourse. He writes that communities take us

...closer towards an explanation of how writers and readers make sense to each other in shorthand (and often seemingly obscure and tortuous ways); [they] suggest how communication often seems more awkward with members of other groups and relatively effortless among those we know; [they] show how heterogeneous classes of undergraduates might come to form a successful unit; how conflicts arise and are resolved (or not); how newcomers may be initiated and apprenticed into full membership; and how the discourses of different disciplines may be distinguished and understood. (pp. 51-52)

Hyland notes that the idea of the discourse community is highly contested. He points out that some argue that the construct presents discourse as too static, and that it veils the dynamic, shifting nature of texts and behavior; others decry the implication that academic discourse communities are bastions for hierarchy, power, and exclusion (Hyland, 2009). I do not dispute these arguments and consider them important bases for research. However, we would be throwing out the baby with the bathwater if we dispensed with the idea that certain kinds of text and speech are produced in, and also help demarcate, specific epistemological and cultural communities. As I build my case for this dissertation research on disciplinary writing instruction, I argue that an acknowledgment of these communities is imperative because the nature of the communities themselves may help to explain the instructional approaches that happen within them. Indeed, Carter says sociocultural theorists contend that “Discourse should always be defined by its context, and novice writers should be initiated into a discourse community by studying the conventions of that community and the way writing is used in

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that community” (1990, p. 266). In my study, the discursive contexts I investigated were delineated according to discipline, a commonly used boundary in the research on discourse communities (Bazerman et al., 2005; Hyland, 2009; Russell, 1990; Russell, 1997), because “disciplinary communities of practice are critical sites of sociohistoric development and should be critical sites of inquiry” (Prior, 1998, p. xii).

Disciplinary Ways of Knowing

At least since Thomas Kuhn’s groundbreaking work, *The Structure of Scientific Revolutions* (1962), which identified the fluctuating nature of scientific paradigms, researchers have been attending to disciplines and the ways that knowledge is structured within them. Not all of that research focuses on discourse, but much of it does. Many higher education researchers use discipline as a lens to better understand the academic profession (Becher & Trowler, 2001; Clark, 1997; Lattuca, 2001; Lattuca & Stark, 1995; Neumann, 2009; O’Meara, Terosky, & Neumann, 2009). Still other researchers use discipline as a way to understand teaching and learning in higher education (Donald, 1995; Neumann, Parry, & Becher, 2002; Quinlan, 1997; Shulman, 1993; Stark & Lattuca, 1993; Stark, Lowther, Bentley, & Martens, 1990). While this growing body of research does not explicitly examine discourse, it reiterates the differences among disciplinary epistemologies, and lends support for the contention that epistemological differences influence how instructors conceive of and practice their teaching.

In a revealing example, Kreber’s (2009) research has begun to explore the ways that instructors conceive of the “organization, artifacts, assumptions and practices” particular to a discipline (Donald, 2009, p. 35). Tapping instructors’ meta-awareness of these aspects of their fields enables researchers to understand the kinds of thinking and

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activities instructors are (implicitly or explicitly) asking their students to do. Kreber (2009) asked instructors from three different disciplines—English, law, and physics—to describe critical thinking, a learning goal that many educators might consider non-disciplinary, or generic. The English instructor said that critical thinking comes from textual analysis: “The sort of thinking processes would be those sorts of hermeneutic or analytical skills. What is this text doing?” (Kreber, 2009, p. 12). The law instructor said that critical thinking is all about assimilation of information: “It is sorting out the relevant from the irrelevant. It is the thinking through things in a logical process... [the] need to be able to look at a bunch of facts and sort out... which bits of the law are relevant to that bit of the facts” (p. 12). Finally, the physics instructor described critical thinking as “analytical problem solving... Being able to look at a mathematical equation and not just see the symbols but see the underlying physics to it... Much of physics is this ability... to do the manipulation” (p. 12). These definitions of critical thinking are subtly but fundamentally different. The *procedures* and *tools* one uses to achieve critical thinking differ across the three domains—one involves the analysis of text, another entails the sorting of information, and the third requires problem-solving.

Kreber’s study and others like it, though they do not explicitly address writing, are important starting points for a sociocultural study of disciplinary writing instruction. For one, Kreber’s work reiterates that disciplines are not just repositories of content knowledge. Procedural knowledge is an important component of disciplinary learning as well, which means that students should “learn how to think within that subject, develop an argument, learn the concepts or core ideas that inform it, and the procedures used for dealing with problems that arise within the context of this subject” (2009, p. 16). The

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instructors' responses in Kreber's study help illuminate the difference between procedural knowledge, or an "epistemology of practice" as Cook and Brown (1999) call it, and content knowledge, or an "epistemology of possession" (Cook & Brown, 1999). Disciplinary ways of knowing differ because what we *do* to achieve that knowing differs. Kreber helps demonstrate that researchers and instructors should be conscious of the distinct nature of procedural knowledge used by experts in their fields. We can expect, therefore, that literacy practices will be different across disciplines, and so will faculty's approaches to teaching them. This study investigates how faculty characterize the "ways of knowing, doing, and writing" in their disciplines (Carter, 2007), and how they consciously or unconsciously teach these ways of knowing through their writing assignments.

The Marriage of Discourse and Discipline

A number of scholars explore discourse and discipline in conjunction, and much of this work informs theory and research in Writing in the Disciplines (WID). Some have used texts as the object of analysis, a common approach especially for genre theorists and linguists. Textual genres, scholars argue, provide clues about the patterns, values, and ideologies of a discourse (Bhatia, 1997). From linguistics, John Swales's *Genre Analysis* (1990) is a classic example of the theory and research supporting discourse analysis. Another classic anthropological study often cited by rhetorical and composition scholars is Latour and Woolgar's *Laboratory Life* (1979), an ethnographic examination of texts and practices in one scientific laboratory. Charles Bazerman's *Shaping Written Knowledge* (1988) is widely regarded within composition studies as the definitive analysis of the scientific experimental article.

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Other scholars examine disciplinary discourse not through texts but through the producers of texts—mainly students. Paul Prior’s *Writing/Disciplinarity* (1998), for example, presents case studies of graduate students who become socialized into their discipline (education) as they produce and receive feedback on academic texts. In their book, *Thinking and Writing in College* (1990), Walvoord and McCarthy investigate college students as they learn to write in the disciplines of business, history, human sexuality, and biology. Berkenkotter and Huckin’s *Genre Knowledge in Disciplinary Communication* (1995) presents several case studies of writers within their fields; these authors note that “One way to study the character of disciplinary communication is to examine the situated actions of writers, and the communicative systems in which disciplinary actors participate” (p. ix). The number of studies of student writers and writing within disciplinary contexts is growing (e.g., Beaufort, 2007; DeFazio, Jones, Tennant, & Hook, 2010; North, 2005; Penrose & Geisler, 1994; Wilder & Wolfe, 2009), and more examples from the disciplinary contexts of history and engineering will be presented later in this chapter. This research demonstrates that disciplines are valuable sites for building domain-specific knowledge through writing.

Disciplinary literacy is one strand of education research that demonstrates the utility of examining literacy practices within disciplinary contexts, and is particularly useful in that it highlights the teacher’s perspective. Emphasizing literacy within disciplines’ “specialized knowledge and abilities” (Shanahan & Shanahan, 2012, p. 7), disciplinary literacy advocates that teachers attend to patterns of language, which “include differences not only in the nature of the technical vocabulary but also in points of view, attribution of causation and agency, passive and active voice, and other linguistic

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differences that undergird the nature and purpose of the disciplines” (p. 10). With specific reference to writing, Moje notes that the “complex cognitive processes [entailed in writing]... are mediated by largely taken-for-granted cultural practices” (2007, p. 9). Like many of the studies cited above, disciplinary literacy theorists also describe disciplines in terms of practice and culture, and reinforce the sociocultural tradition that permeates these threads of scholarship.

Disciplinary literacy theorists’ focus on teaching as well as learning is particularly valuable to this study because it reiterates the need for more research on this role. Moje demonstrates this focus when she writes that “subject-matter instruction depends as much on teaching the ways of engaging with disciplinary language and text as it does on teaching mainstream disciplinary knowledge or even habits of mind” (2007, p. 9). The key to disciplinary literacy is the teacher’s “specialized guidance” in the “ways that literacy works” within a subject area (Shanahan & Shanahan, 2012, p. 16). This emphasis on instruction makes disciplinary literacy an informative construct for studies that, like mine, have instructors as their units of analysis.

Monte-Sano and Harris’s (2012) study of two novice history teachers in middle school is a helpful example of disciplinary literacy research. In this comparative case study, the authors observe two history teachers during their pre-service training, and then in the first few years of teaching. They attend to these teachers’ approaches to teaching writing, and the study makes an important contribution to the argument that writing can be taught according to conventions that are specific to disciplinary thinking, or it can be treated as a set of generic skills, separate from the discipline. One of the teachers, who had graduated from her history major without an “understanding of history’s disciplinary

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structure and the procedural knowledge required to ‘do’ history” taught writing as if it were a recitation of knowledge, typically with one right answer. She heavily emphasized such general and superficial writing skills as formatting, and paragraph- and sentence-structure. Conversely, the other teacher under investigation, who graduated with strong knowledge of the structure of the discipline, taught writing by heavily emphasizing the use of evidence for making interpretations.

Monte-Sano and Harris’s (2012) study is a strong illustration of disciplinary literacy research for a couple of reasons. First, the authors show through their conclusions that literacy can be used as a tool “to develop historical thinking and facilitate learning,” or writing can “largely disassociated from disciplinary thinking” (p. 126). Studying the ways that instructors teach writing can offer meaningful conclusions about how they teach their subjects.

Second, though Monte-Sano and Harris (2012) did not clearly establish the correlation between the teachers’ own disciplinary knowledge and their approaches to writing instruction in this study, the authors allude to the thread that links teacher’s academic training, disciplinary knowledge, and subsequent approaches to teaching. My study attempts to pick up that thread and look more carefully at how academic training and disciplinary knowledge shape instructional practices. Also, like Monte-Sano and Harris (2012), much of the research in disciplinary literacy is situated within K-12 contexts, and concludes with implications for teacher education. Disciplinary literacy is a useful model for conceiving of how disciplinary knowledge shapes writing instruction in college because college instructors have such deep expertise in their fields. However, because college teachers typically do not receive training in teaching or in writing

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instruction, disciplinary researchers' discussion of the ways that teacher education shapes literacy teaching is not helpful to disciplinary literacy instruction in the college realm.

Much of the college-based WID research on instructional approaches—from instructors' perspectives—to writing remains thin. A search using “faculty” as a keyword on the *WAC Clearinghouse*, a web site dedicated to compiling research on Writing Across the Curriculum (WAC) and Writing in the Disciplines (WID), yields research focusing mainly on faculty resistance to writing instruction, and on the successes and failures of writing instruction workshops for faculty. Framing faculty as resisters who must be overcome and trained to teach writing is unhelpful because that framing takes a deficit view of instructors and assumes that effective discipline-specific writing instruction can be taught in the span of a brief workshop. This study attempts to address the gap in research on faculty who do willingly teach writing, by focusing on the instructor's approaches to writing instruction and the factors that shape those approaches. The following section develops this rationale for more research on the instructor.

The Higher Education Instructor¹

Lee Shulman (2000) wrote of the “prevalent misconception among psychologists and educators that the problem of teaching would be solved simply by solving the problems of learning” (p. 129). Nowhere is this misconception more prevalent than in higher education. Research into what students write, and how they learn to write, will not fully explain what helped bring these texts into being. Students do not compose in a vacuum (Bawarshi, 2003). We have much to learn about how the extent to which the

¹ The terms “instructor” and “faculty” refer to teachers of college-level courses, and are used interchangeably in this study. The terms make no reference to status (part-time, full-time, tenured, etc.).

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teaching of writing shapes student writing. Others concur that teaching in higher education, particularly in the area of instructors' beliefs and values, is under-researched (Quinlan, 1997; Salem & Jones, 2010). This gap in the research exists in spite of the fact that, as McCarthy and Moje (2002) point out, "Identities are built within the social interactions one has with a particular Discourse community" (p. 231) and teachers are influential figures in ascribing and constructing student identities (Hall, Johnson, Juzwik, Wortham, & Mosley, 2010).

Brown, Reveles, and Kelley (2005) have introduced the concept of a "discursive identity," which "offers the possibility of examining how students' identity frameworks are negotiated through discourse," and these negotiations incorporate "antecedent histories, assumptions, and cultural knowledge" (p. 782). In other words, students develop discursive identities in part by what they bring to a setting, and in part what the setting and linguistic interactions bring to them. As participants within disciplinary discourse communities, I propose that instructors' discursive identities can be understood in similar ways. I argue that in order for us to better understand instructors' approaches to teaching writing, we must first delve deeply into their "histories, assumptions, and cultural knowledge."

Conceptual Framework

Through this study I propose to develop a better understanding of the aspects of instructor identities that directly affect their approaches to writing instruction, with the long term goal that this understanding may facilitate similar research in broader contexts. Based on relevant literature, my own previous research, and my experience as a writing instructor, I have developed a framework encompassing the factors that are salient

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influences on instructors' approaches to teaching writing in their disciplines (see Figure 1). These factors are: instructors' own academic biographies, disciplinary identities, and educational ideologies. For each of the variables that I have theorized, I explore more of the relevant literature below.

Academic Biography

An important influence on instructors' approaches to writing instruction is likely to be their own histories as students. As Lortie (1975) indicates, a teacher's experience as a student serves as an "apprenticeship in teaching" (p. 61): the particular educational practices and values that future faculty were exposed to as students shape their own pedagogical approaches. In his work on Pedagogical Content Knowledge (PCK), Shulman (1986) encourages researchers to understand a teacher's "intellectual biography—that set of understandings, conceptions, and orientations that constitutes the source of their comprehension of the subjects they teach" (p. 8). As Shulman's quotation shows, these histories are tied up with discipline. A major goal of PCK is to understand the ways that a teacher's knowledge is shaped—both historically and in current practice—by disciplinary context.

Holt-Reynolds (1992, 1999) has conducted empirical research on the ways that academic biography shapes instructional approaches. In her 1992 study, she investigated the "personal history-based beliefs" nine English Language Arts preservice teachers brought to a content area reading methods course in their teacher education program. Using an un-named qualitative methodology, she interviewed each preservice teacher several times, coded their transcripts for themes, and generated personal histories for each participant that "described these themes and tied them to personal stories of schooling or

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home” (p. 328). She found that their “history-based beliefs” had a strong influence on their views of teaching, even to the point that those views overshadowed what they learned in their teacher education program.

While her study makes a compelling case that “the personal histories of preservice teachers appear to function as prior knowledge of what ‘good’ teaching should look, sound, and feel like” (p. 343), her connections between the preservice teachers’ academic experiences and their attitudes about teaching were tenuous. She did not present any of the personal histories she drafted as a part of her data analysis, so the reader is left to only trust the connections she drew in those documents. The interview data she presented as evidence for the teachers’ drawing on history-based beliefs relied on extremely subtle semantic indicators, such as a respondent’s switch from the third person to the first person. For example, one respondent said that students are not passive learners when “*they* are involved and really interested in what’s going on in the lecture and it’s stimulating something in *their* mind and making *me* think about a lot of things” (p. 339, emphasis in original). Holt-Reynolds’s emphasis on the pronoun shift in this excerpt was meant to be “the most dramatic” (p. 339) demonstration that teachers’ views about teaching are “clearly grounded in their personal histories” (p. 338). Holt-Reynolds’s study reveals some of the difficulties in inferring from self-reported data about how personal history shapes present views, but she also makes a strong case for studying the phenomenon.

The influence of academic biography is particularly relevant in regard to writing, though there is less empirical research in that area. One reason for that relevance is that many instructors had mixed experiences with their *own* writing instruction, if they had

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any writing instruction at all. As Maimon (1982) found in faculty workshops given at Beaver College—now famously known as one of the birthplaces of the Writing Across the Curriculum (WAC) movement (Russell, 1990)—content-area instructors have often “not fared well in their own undergraduate composition classes... [where] the good intentions of composition instructors had often been lost on future scientists, sociologists, and art historians, and they developed unfortunate attitudes about writing and about themselves as writers” (Maimon, 1982, p. 68). In reflections on her experiences with faculty resistance to a WAC program at her institution, Donahue (2002) notes that faculty “project upon the ‘writing people’ their own apprehensions and bad experiences with writing” (p. 38).

Though Maimon and Donahue offer observations of faculty attitudes based on anecdotal experience as writing program administrators, other researchers are starting to document faculty attitudes and their antecedents through more formal studies. For example, Boice (1990) surveyed 35 social science faculty about their attitudes toward bringing writing into their classrooms. These faculty reported concerns about the workload associated with assigning and grading writing, claimed that they did not enjoy writing, and did not feel qualified to teach it. Salem & Jones (2010) also attempted to document (through a factor analysis of survey data from 140 faculty) the variety and complexity of attitudes about teaching writing. They found that 40% of their sample consider themselves unqualified to teach writing, a perception Salem and Jones attribute in part to the lack of training faculty receive in writing instruction (see also Donahue, 2010). This study attempts to bridge instructors’ attitudes about teaching writing to their own past training or education in teaching writing.

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The lack of training in teaching writing is an extension of an even more fundamental problem: the unpredictability of academics' training in *writing*. Because most college instructors went through undergraduate and graduate programs in institutions where writing instruction was seen as the purview of the English department, the only discipline-specific writing instruction they received was "largely by having someone critique their finished pieces, with an emphasis on structure and rules" (Walvoord & Smith, 1982, p. 10). Indeed, the last explicit writing instruction many faculty received dates back to their undergraduate composition courses (many of which took place during their first year). As Carter (2007) writes in his defense of discipline-specific writing instruction, "because professors typically learn to write in their disciplines not by any direct instruction but by a process of slow acculturation through various apprenticeship discourses, they are unable to see that writing itself is specific to the discipline" (p. 385). Carter characterizes discourse acculturation as an issue of "transparency;" when academics develop facility with the discourse of a discipline tacitly, or transparently, it is logical to expect that they will teach it in similar ways.

In this study I investigate instructors' academic histories, and specifically attend to their experiences as developing writers, with the expectation that these histories will help explain the ways they think of and implement writing instruction. In particular, an investigation of this variable may reveal a connection between an instructor's acculturation to a disciplinary discourse and his/her teaching of that discourse.

Disciplinary Identity

Disciplinary identity refers to participants' characterizations of the nature and purposes of knowledge in their respective fields. Quinlan (1997) notes that academics

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identify strongly with their discipline, yet disciplines are “strikingly absent from the literature on academics’ beliefs about teaching and learning” (p. 620; see also Shulman & Quinlan, 1996). Recent research trends such as those in disciplinary literacy have mitigated higher education researchers’ tendencies to focus on “generic aspects of teaching methods, student learning, curriculum development and assessment” (Neumann, 2001, p. 135). However, more work needs to be done in disciplinary teaching and college writing, and with the instructor as unit of analysis, so that researchers can determine whether instructors’ perceptions of their fields account for their approaches to teaching.

Instructors’ disciplinary identification is in many ways perpetuated and enacted through discourse. Researchers have demonstrated how experts’ interpretation of texts reflects and expands their understanding of the field (e.g., Abbott & Eubanks, 2005; Wineburg, 1998). Therefore, a dimension of disciplinary identity that I attempt to capture in this study is an instructors’ characterization of the normative modes of knowledge in the field, and how that knowledge is manifested through texts and discourse.

A second dimension along which I determine instructors’ disciplinary identities is through their characterization of the utility of knowledge in their disciplines. Lattuca (2001) writes that disciplines are commonly defined by the extent to which they judge “the validity and adequacy of solutions to problems by defining what is acceptable, appropriate, and/or useful” (p. 24). Biglan (1973) writes that a discipline can be defined in terms of its “requirements for practical application” (p. 196). An instructor’s accounting of how knowledge should be used may illuminate the ways they frame the uses and purposes of writing to their students.

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Just as academics' relationships to a discipline are shaped by their interaction with discourse, those relationships also mediate and are mediated by their own production of discourse. McCarthy and Moje (2002) claim that, "Especially for the avid readers and writers, much of their identity seemed to be tied to their literacy achievements" (p. 230). Others have explored the ways that teachers' views of themselves as writers shape their teaching practice (e.g., Cremin, 2010; Lea & Stierer, 2009). Therefore, a final dimension of disciplinary identity captured in this study is how participants characterized their identities and practices as writers.

As Grossman and Stodolsky (1995) argue, "subject matter permeates the professional identity" of teachers (p. 5). Through this factor, I explore how discipline "permeates" participants' roles as practitioners, and to do so I pay special attention to the ways texts and discourse work as vehicles for their disciplinary understanding, the uses of knowledge, and the writing identities of instructors. I then analyze how these instructors' characterizations of knowledge and discourse influence the ways they teach writing and discourse in their own courses.

Educational Ideology

In this study I determine whether and how instructors' beliefs about the purposes of higher education shape their approaches to writing instruction. Quinlan (1997) has written of the "importance of teachers' educational beliefs in shaping teachers' choices and actions" (p. 620), and others reiterate the salience of this variable (e.g., Fanghanel, 2012; Stark et al., 1990). Educational ideology refers to the "ways in which academics conceptualise [sic] and approach teaching and learning, and position themselves toward the teaching and learning context" (Fanghanel, 2009, p. 565).

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An exploration of some of the typologies for educational ideology that researchers have developed provides a vocabulary upon which I draw to elucidate the ideologies of participants in this study. Fanghanel (2009) adapts a typology originally developed by Paul Trowler, which divides ideological approaches into four categories: the “traditionalist” or “liberal” view, which advocates the advancement of knowledge “for its own sake”; the “vocationalist” view, which approaches undergraduate education as a means for contributing to the economy; the “progressive” or “emancipatory” view, which emphasizes student growth and development; and the “social constructionist” or “critical” view, which sees higher education as a means for social transformation (p. 571). In her later study of the academic profession based on interviews with 50 faculty participants, employed by 20 institutions in 5 countries, she synthesizes her previous typology into three categories: the “production,” “reproduction,” and “transformation” ideologies (the latter is a conflation of the “progressive” and “social constructionist” views) (Fanghanel, 2012).

Others have framed educational beliefs in other terms. Smart and Ethington (1995), for example, speak of faculty’s “undergraduate education goals,” and define these goals as “knowledge acquisition,” examples of which include an “appreciation of literature..., a basic understanding in mathematics..., [and] knowledge of history”; “knowledge application,” which refers to the application of knowledge to practical vocations; and “knowledge integration,” which is characterized by development of “students’ values” and “creative thinking” (p. 51). Braxton (1995) uses disciplines instead of goals as an organizing frame, and argues that some disciplines have greater “affinity for the improvement of undergraduate education” (p. 59).

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These researchers' frameworks help orient me to my own data on faculty's educational beliefs. Fanghanel's (2012), Smart and Ethington's (1995), and Braxton's (1995) theorizations were designed for studies with large sample sizes, none of which dealt with writing instruction directly. This study, comprised of four in-depth cases, nevertheless investigates faculty's attitudes about the purposes of higher education, and attempts to determine how these attitudes influence writing instruction. The frameworks provide a conceptual terminology for discussing faculty's attitudes about "the relation of education to work and the economy, and to human and social development" (Fanghanel, 2012, p. 7).

Inductively Derived Factors

Salem and Jones (2010) warn against shoving faculty into overly reductive categorizations. Fanghanel (2012) describes the academic's identity as a "richness" that is "constructed, relatively fluid and influenced by academics' biographies and habitus, their positions within the academic field and their own ideological beliefs about education" (p. 6). And Britzman (2003) reminds us of the many factors that inform teacher development: "Teachers bring to their work their own idiomatic school biography, the conflicted history of their own deep investments in and ambivalence about what a teacher is and does, and likewise they anticipate their dreams for students, their hopes for colleagues, and their fantasies for recognition and learning" (pg. 2). Other factors such as institutional and departmental contexts, course level and size, and students likely play decisive roles in instructors' strategies for teaching writing. Therefore, the variables I have outlined are not meant to definitively encompass every aspect of what causes an instructor to teach (or not teach) writing within a discipline. Rather, the framework I have

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developed is a starting point for understanding how “teachers’ identities in other areas of their lives contribute and relate to their identities as teachers” (Kelly, 2006, p. 514). The framework makes room for other, inductively derived factors, and these factors will be incorporated into the case analyses as well.

Conceptual Framework Diagram

Figure 1 depicts an image of the study’s conceptual framework. In it, the phenomenon under study is depicted as situated within its institutional and departmental contexts, and is being acted upon by the three theorized factors. The framework also incorporates the possibility that other factor(s) may influence instructors’ approaches to writing instruction.

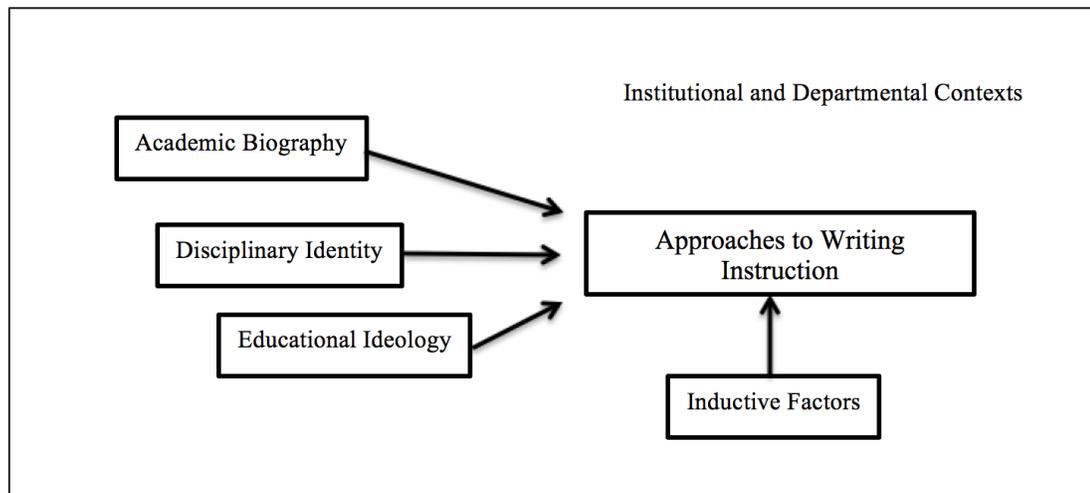


Figure 1. Orienting Conceptual Framework

Writing Instruction in History and Engineering

In this dissertation I study cases of instructors who teach writing in their content courses in history and engineering. I settled on these two disciplines because they are epistemologically disparate and fall within two different quadrants of Biglan’s (1973)

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typology of disciplines: engineering is “hard-applied” and history is “soft-pure.” I anticipated that the disciplines’ respective systems of knowledge, genres, and methods would provide illuminating juxtapositions.

By exploring some of the research in history and engineering, my goal is to determine how the nature of these disciplines affects literacy-related pedagogical practices. While the history and engineering literature that specifically addresses faculty approaches to writing instruction remains quite thin, a growing amount of theory and research in both fields touches on at least some of the issues I have explored above: discipline, discourse, discourse communities, and disciplinary literacy. I present a selection of literature from each field that touches on disciplinary discourse and/or teaching in some way that illuminates the discipline and its literacy practices. In particular, I use the literature from each field to portray the kinds of knowledge valued in each discipline and how particular genres and writing practices are used to carry out those values. I then present in greater detail some of the few studies that mirror my phenomenon of study most closely.

To find this literature I conducted a search for each discipline at the *WAC Clearinghouse* web site, which compiles WAC/WID theory and research, and read the abstracts of all articles in the search results. I downloaded articles that dealt with disciplinary literacy in college, and prioritized those articles that focused on instruction, or on the nature of writing in the given discipline. I also asked colleagues who were experts in history/social studies education or in engineering education to point me in the direction of authors or articles. I took a snowball approach to the literature they shared with me, mining reference lists for further sources until I collected a sample that

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sufficiently framed my phenomenon, and highlighted some of the gaps I have described in this chapter.

Engineering

Lattuca (2001) describes hard-applied disciplines like engineering as “generally work[ing] toward some practical end... Their primary outcomes are products and techniques” (p. 33). Yet engineering educators and theorists themselves spend relatively little time discussing the nature of the discipline. The engineering knowledge that is discussed the most among theorists and practitioners is the requisite possession of mathematical and scientific knowledge. In her study of how engineering faculty define the discipline, the requirement of math/science knowledge was the most common response, (with “problem-solving” and “making things” offered as related definitions) (Pawley, 2009). Indeed, the perceived importance of math and science skills often overshadows the other kinds of qualities needed in engineering, such as creativity and teamwork (Pawley, 2009), as well as communication skills (Beaufort, 2007; Pawley, 2009).

Perhaps due to the emphasis on the application of mathematical and scientific principles to practical problems, students and teachers alike resist the notion that literacy is an integral aspect of the discipline (Artemeva, Logie, & St. Martin, 1999; Wolfe, 2009). Beaufort speculates that this tendency to neglect literacy may partly be a result of novices’ views of themselves as working exclusively and “directly on physical objects” (2007, p. 108). Wolfe (2009) speculates that the passive voice is commonly used because most texts in engineering focus on a material object; using the active voice would dilute the focus on the physical materials at hand. A genre system (Bazerman, 2003) where

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objects are privileged and passive-voice predominates may perpetuate the belief that texts are objective and fact-based. The belief that “objects and data speak for themselves” (Winsor, 1996, p. 2) may reduce the value of texts as meaningful entities in and of themselves. The de-valuing of literacy may also be one of the reasons that engineering educators tend to assign so little writing, and when it is assigned, it is not carefully guided or assessed (Ostheimer & White, 2005).

In spite of the historical lack of focus on literacy, engineering education researchers universally describe communication skills as essential for practitioners. Reave (2004) points to literature asserting that engineers spend anywhere from 50% to over 60% of their work hours communicating, with “communication” entailing writing, oral discussions, and oral presentations. Ostheimer & White (2005) put this estimate at closer to 80%. What is more, researchers note that “Engineering employers cry loudly that recent graduates cannot write, or they write poorly” (Evans, 1995, pp. 114-115), and that an ability to write can make or break a novice engineer’s employment (Beaufort, 2007). Some researchers even go so far as to say that clear communication in engineering can save lives: a number of articles cite the 1986 explosion of the space shuttle Challenger, which killed seven crew members, as a prime example of communication-gone-wrong (Reynolds, Thaiss, Katkin, & Thompson, 2012; Walker, 1999; Winsor, 1990).

In order to better prepare engineering graduates for the workforce, researchers call for more authentic professional writing experiences in academic contexts (Artemeva, Logie, & St. Martin, 1999; Dannels, 2000). What is interesting to note is how heavily engineering educators and researchers emphasize “professional tasks and genres” (Poe,

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Lerner, & Craig, 2010, p. 19) as an approach to academic writing, which reinforces the applied nature of the discipline. Engineering educators appear to place a higher premium on the writing skills that students will need to use as engineers than on the writing used to build knowledge for its own sake.

As one notable exception to the ethos that writing is primarily a professional skill, Gopen and Swan (1990) claim that, “Improving the quality of writing actually improves the quality of thought” (p. 550). That writing is a means to knowledge construction is a common argument among non-engineering literacy researchers, and a foundation for the argument that writing should be taught within and across disciplines. However, the research cited here for the most part fails to identify just what *kinds* of thinking are valued in engineering—aside from the value placed on math and science knowledge. The focus of engineering literacy researchers is evidently on the application of skill in a professional context, rather than on skills or understandings for their own sakes. This priority bears out Lattuca’s (2001) claim that hard-applied disciplines are oriented toward practical ends. It may also be that writing as a mode of inquiry is antithetical to the paradigmatic nature of the discipline. Biglan (1973) writes that “fields that have a single paradigm will be characterized by greater consensus about content and method than will fields lacking a paradigm” (p. 202). If the content and method of the discipline are a given, then inquiry is moot. The applied nature of the technical reports (which serve to explain a product design process, share calculations, and report on findings) required by the engineering faculty in this study bears out the theory described above.

The following characterizations of writing in engineering highlight the practical and paradigmatic nature of the discipline, and provide a sense of how those in the field

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view discourse. According to researchers of literacy in engineering, the writing of the discipline adheres to the following characteristics:

- It serves to document and communicate (Beaufort, 2007; Hanson & Williams, 2008).
- It is a requisite of the profession (Artemeva, Logie, & St. Martin, 1999; Dannels, 2000; Evans, 1995; Reave, 2004).
- It is often written on teams (Bergmann, 2000).
- It is clear and organized (Evans, 1995; Gopen & Swan, 1990; Poe, Lerner, & Craig, 2010).
- It is mechanically and grammatically correct (Yoder, Sawyers, Estell, & Laird, 2006).
- It includes discussions of cost and marketability (Beaufort, 2007), and is product- or “deliverables”-oriented (Bergmann, 2000).
- It is characterized by a professional authorial voice (Poe, Lerner, & Craig, 2010).

Writing in engineering can manifest in any number of genres, including technical reports, research articles, poster presentations, and grant proposals (Bergmann, 2000; Poe, Lerner, & Craig, 2010). It can serve purposes similar to scientific writing in general, such as describing procedure (how to do experiments), recounting procedure (recording what happened in an experiment), scientific reporting (information organized taxonomically), and scientific explanation (how/why phenomena occur) (Shanahan, Shanahan, & Mischia, 2011).

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In spite of the practical goals of engineering communication, some point out that science writing, like all writing, is inherently rhetorical. That is, it takes a stance and seeks to persuade its readers. Gopen and Swan write,

...[W]riters cannot ‘merely’ record data, even if they try. In any recording or articulation, no matter how haphazard or confused, each word resides in one or more structural locations. The resulting structure, even more than the meanings of individual words, significantly influences the reader during the act of interpretation” (1990, p. 558; also see Baake, 2003; Bazerman, 1988; and Miller, 1979, on the rhetorical nature of scientific and technical writing).

The authors here demonstrate that, despite their supposed objective appearance, engineering texts employ strategies to persuade readers.

Yet even researchers who are strongly in favor of using writing to learn within the discipline tend to focus on mechanical and prescriptive approaches. Based on their own intervention study, for example, Yoder, Sawyers, Estell, and Laird (2006), recommend the use of proofreading exercises to reduce errors in engineering students’ writing. Evans (1995) offers tips about how to improve organization and clarity, and how to use the passive voice and impersonal style to good effect. Even Gopen and Swan (1990), whose work most explicitly acknowledges the rhetorical nature of science writing, conclude with formal recommendations about syntax; they suggest, for example, that writers keep the subject and predicate of a sentence close together, position the topic toward the front of the sentence, and bear in mind that sentences typically build in emphasis as they progress. Bergmann (2000) argues that the focus on correctness and clarity is unlikely to disappear, no matter how many literacy theorists push for more attention to process and creativity, because “engineering is heavily oriented toward products” (p. 5).

In spite of evidence that students’ academic performance (which includes writing) is swayed by their conceptions of disciplinary knowledge, science educators tend to avoid

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discussing the process of knowledge construction (North, 2005). Perhaps because of the practical and paradigmatic nature of the discipline, discussions of epistemology are not viewed as a necessary part of writing instruction in engineering. As Winsor (1996) explains it, technical knowledge and rhetorical knowledge tend to be mutually exclusive; the belief that “objects and data speak for themselves” necessarily limits an awareness of rhetorical strategies and effects (p. 2).

History

Commonly perceived as the “spinach of the liberal arts,” Spoehr & Spoehr (1994) describe history as somewhat of a drudgery: “It may be good for you but it is not fun” (p. 71). Its unappealing nature may be due to the discipline’s traditional presentation as a collection of facts to be memorized (Van Sledright, 2002). History education researchers challenge this traditional representation, which tends to reductively dichotomize the past; “grand” (Coffin, 2002) and “godlike” (Wineburg, 2001) narratives have long been presented in such a way as to oversimplify the distinction between progress and decline, between “something” happening and “nothing” happening (Seixas, 1996). Oversimplifying the nature of the past, Lee (2006) asserts, causes students to perceive a rift between what happened before and the world they live in now—a dangerous and incorrect idea. In fact, “the fixed border between past and present is illusory: much of our thinking about the present and future unconsciously draws on the past” (Lee, 2006, p. 146). Indeed, history is a matter of continuity and change, and provides a “meaningful context for collective experience” (Seixas, 1996).

Beaufort (2007) speaks of the multifaceted, loosely connected nature of history, and says that the discipline can be conceived in terms of thinking tasks, such as event

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reconstruction and interpretation. Lee reiterates the idea of the discipline as a way of knowing when he discusses “second order” understandings of key historical concepts. These concepts do not refer to content (names, dates, battles, etc.), but to a kind of necessary metacognitive framing of the content. One must have a conception of *change* or *time*, for example, or must know how to recognize *evidence* and *accounts*. Without a firm grasp of concepts like these, historical thinking cannot happen. As VanSledright (2002) describes it, history is not a collection of facts, but is rather an argument about what those facts mean. Second order concepts help to structure arguments in a meaningful way.

An example helps illustrate the importance of these metacognitive skills in historical thinking. Wineburg (2001) asked historians and advanced high school history students to individually reflect out loud on a selection of historical texts. While the students in some cases were able to recognize factual material better than the historians (they knew, for example, who a certain figure was), they treated the texts as an objective set of facts. For them, reading was “not a process of puzzling about authors’ intentions or situating texts in a social world but of gathering information, with texts serving as bearers of information” (p. 76).

The historians on the other hand entered into a dialogue with the texts, interrogated the author’s reliability, and rhetorically analyzed the stance of the historical figures being portrayed in the text as well as that of the author. Careful reading of the texts caused the historians to “pretend to deliberate with others by talking to themselves” (Wineburg, 2001, pg. 70). Texts in history, then, are not the presentation of objective

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data but are rather occasions for the simulation of “the give and take of social exchange” (pg. 72).

As Wineburg (2001) suggests, texts in history manifest the discipline’s humanistic and social approach to inquiry. However, though the literature I explore here is clear and consistent about conceptual approaches to historical thinking and writing, it is all but silent on the forms that typical historical texts take. Whereas engineering genres are easily identified in terms of the practical purposes they serve—technical reports, memos, grant proposals, and the like—the only explicit genre mentioned in the literature on writing in history (as an academic subject) is that of the historical essay (Beaufort, 2007). Authorial stances taken by historians may be easier to list than textual forms; these can include historical account, explanation, and argument (Shanahan, Shanahan, & Misischia, 2011). However, formalized genres seem to play almost no part in how discourse is discussed within the discipline. Interestingly, my participants in history were both clear that the primary genre for disseminating historical knowledge is the monograph. Perhaps a reason that the monograph is not discussed in the educational literature on writing in history is that this is a form that students of history do not themselves create.

Others note related gaps in historical literacy research. Coffin (2002) notes a lack of research on the linguistic aspects of historical texts, and later calls for more attention to the ways that historical genres are structured and to the kinds of rhetorical effects they have (Coffin, 2006). Monte-Sano and De La Paz (2012) echo this concern for better understanding of historical genres, and want to know how different kinds of texts affect student thinking. They argue that epistemologies of history may help shed light on its

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textual forms; while certain genres (like essays) and stances (like argument) may not be exclusive to history, certain logical components within these forms (like the use of data and warrants) may be discipline-specific and should be explored as a way to help operationalize forms of the discipline.

The “soft pure” nature of the discipline may help account for these gaps in the research. “In the soft pure domains,” Lattuca (2001) writes, “complexity is a legitimate and necessary feature of a holistic appreciation of phenomena” (p. 33). The discipline does not aim to solve practical problems through applied knowledge, nor does it aim to prepare students for a specific profession. History is a problem-tolerant, not a problem-solving, domain (Wineburg, 1991, 1998). As such, the literature appears more readily able to elaborate on ways of *thinking* in history than on specific textual *practices*. Greene (1994) calls for pedagogical explicitness about form when he writes that instructors “need to provide students with an enlarged repertoire of strategies so that students can negotiate complex tasks of reading and writing in history” (p. 95). Certainly more research is needed to understand which genres are taught in history, and how.

Comparison of the Disciplines

Holding the disciplines up against each other, we see that whereas researchers call for increased attention to literacy in engineering because professional engineers are frequently required to write, researchers in history appear to be more interested in the ways that writing and reading can help to improve students’ historical thinking. Writing is seen as instrumental for practical ends in engineering, and for intellectual ends in history.

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Another difference between the two bodies of research is that engineering literacy research is almost exclusively set in the context of higher education (perhaps because engineering is not a subject commonly taught in high school), whereas much of the literacy research in history originates from the K-12 context. I found a few exceptions to the prevalence of K-12 history research. Rouet, Britt, Mason, and Perfetti (1996) conducted a study on college history students, but they attend primarily to the students' reading and reasoning processes, and not to instruction. Greene also does research on college student writing in history. In one study (1994), he investigates students' difficulties in adapting their writing skills to the requirements of historical thinking. In another, he investigates how the completion of writing tasks affects students' historical thinking (Greene, 1993). While Wineburg attends to literacy practices of expert historians—many of whom are college faculty—he does not explore the ramifications of his participants' literacy on their teaching practices (Gottlieb & Wineburg, 2012; Wineburg, 1991; 1998).

The minimal attention to the instructor is prevalent across literacy research in both disciplines. In engineering, studies observe students (Beaufort, 2007; Poe, Lerner, & Craig, 2010; Winsor, 1996), student texts (North, 2005), textbooks (Wolfe, 2009), and curriculum (Dannels, 2000; Reave, 2004; Thompson, Alford, Liao, Johnson, & Matthews, 2005); or they offer prescriptions about how writing could be improved mechanically and stylistically (Evans, 1995; Gopen & Swan, 1990; Yoder, Sawyers, Estell, & Laird, 2006). Similarly, history studies attend to students (Beaufort, 2007; Greene, 1993; Greene, 1994; Monte-Sano & De La Paz, 2012; Rouet, Britt, Mason, &

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Perfetti, 1996; VanSledright, 2002), student texts (Coffin, 2002, 2006), and professional historians (Gottlieb & Wineburg, 2012; Wineburg, 1991; 1998).

A few studies provide interesting exceptions to this general lack of attention to the instructor. As I showed above, Monte-Sano and Harris (2012) explored instructional approaches to writing in history, though their participants were middle school instructors. Pawley (2009) conducted in-depth interviews with engineering faculty to determine how they defined their discipline. Pawley interviewed ten engineering faculty about their “definitions of engineering” on the assumption that understanding those definitions will help explain “their practice as academic engineers” (p. 311). Her findings show that participants’ definitions fit within one of three narratives: engineering as “applied science and mathematics,” as “solving problems,” and as “making things” (p. 312). Pawley acknowledges that these findings are not new or surprising, but articulates the study’s contribution as an emphasis on “the language of practicing academic engineers in the US. These narratives are literally the stories engineering educators tell,” and as such have implications for how “undergraduates interpret, learn, or otherwise make use of these narratives” (p. 317). Though Pawley’s study captures a rather thin slice of data from a small sample of faculty, it highlights how faculty framing of disciplinary norms has a potential impact on others in the community.

Wilson and Wineburg (1988) conducted a similar investigation in history: they looked at four history teachers who came from different academic backgrounds. They surmised that the teachers’ conceptions of the discipline would be shaped by their academic histories, and like Pawley, they anticipated that these conceptions would in turn shape their pedagogical approaches. Though these studies are not explicitly related to

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writing, and though they are limited in number, Pawley (2009) and Wilson and Wineburg (1988) offer useful precedents for this dissertation research in that they provide support for the notions that academic history and disciplinary identity have implications for teaching.

Likewise, Greene (2001) looks not just at the students' experience of "what it means to write" in history, but also at how the students' professor teaches writing, given that the "instructor's mode of instruction can shape the social purposes for writing, the persona writers adopt, and their understanding of what it means to think and act in different disciplinary forums" (p. 530). While Greene pays much of his attention to the student participants, this research supports my contention that student writing is more clearly understood when we also consider who their instructors are, and what they do.

Summary

The literature presented in these sections helps to illuminate the ways of knowing valued within engineering and history, respectively. An exploration of epistemological characteristics helps to contextualize the ways that literacy is researched and taught (or not taught) within both fields. Though my dissertation will focus on discipline-specific approaches to writing instruction in college the research explored here provides a valuable initial understanding of the disciplinary and discursive practices common to each domain. This discussion of history and engineering's values and literacy practices provides a backdrop against which I can present my cases, and situates my analysis within a wider body of research.

This review of the literature has also explicated the broader theoretical perspectives that I take as a researcher, and the assumptions that undergird the study's

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design. Namely, I hold the perspective that communities (in this case, disciplines) have literacy norms and conventions, and that teachers and learners interact within the parameters of these norms in order to cultivate expertise. Furthermore, I have shown that more attention to instructional approaches can help us to better understand how this expertise is cultivated. Theory and my own preliminary research have helped me to construct an orienting conceptual framework, which focuses my attention on instructors' own academic biographies, disciplinary identities, and educational ideologies. An investigation of the nature of these variables helps researchers to structure their understanding of how and why faculty teach writing the way they do.

CHAPTER 3: RESEARCH DESIGN AND METHODS

The chapter begins with my approach to research in general and to case study in particular, then provides a rationale for the methodology, and culminates in my plan for data collection and analysis.

Philosophical Underpinnings

My research questions and study design rest on the assumption that my participants are situated beings with complex attitudes and histories. Therefore, this study documents participants' histories, values, and strategies not simply in spite of, but *because* of their variability, and will honor and explore that variability. I attend to assumptions or biases I bring to my data collection and analysis for, as Geertz puts it, "what we call our data are really our own constructions of other people's constructions of what they and their compatriots are up to" (1973, p. 8). In order to carry out my philosophical approach to research in as disciplined and coherent a way as possible, I approach the cases I have identified (and the phenomenon they represent) deductively and inductively (Creswell, 2013; Yin, 2014).

Approach to Case Study

My approach to the case study method is inspired by Yin's (2014) definition: "A case study is an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (p. 16). This definition is helpful precisely because the phenomenon I am investigating (approaches to writing instruction in two disciplines) is inextricably tied up with contextual influences.

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Therefore, this study is not an attempt to isolate the phenomenon from its context, but instead seeks to capture the interrelation between the two.

Yin distinguishes among three kinds of case study: descriptive, exploratory, and explanatory. Descriptive case studies describe a phenomenon; exploratory case studies analyze possible frameworks and methods for investigating a phenomenon; explanatory case studies describe how or why a phenomenon came into being (2014).

This study is both exploratory and explanatory. It is exploratory because little is known about the nature of disciplinary writing instruction in college. The study, therefore, is discovery-oriented, and not meant to provide confirmation of previous research. It is explanatory in that it attempts to understand how instructors perceive and respond to factors that influence or constrain their writing instruction. To systematically account for participants' instructional approaches, I have theorized factors that influence disciplinary writing instruction; I have not drawn the framework wholesale from previous empirical research. Therefore, part of the goal of this study, in addition to using the framework for explaining the phenomenon, will be to examine the utility of the framework for future research. Because case study seeks to uncover the contextual richness of a phenomenon in ways that quasi-experimental research cannot do, Yin (2014) considers the exploration of multiple variables to be a real strength of the case study method.

Research Questions and Conceptual Framework

As I explained in Chapter 2, the present study builds on the existing research on disciplinary literacy as it is cultivated through college writing. This study will take a different tack from much of the extant research by focusing on the higher education

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instructor's approach to writing instruction, and the factors that influence that approach.

By focusing on instructional approaches, I propose that we can build a stronger foundation for future research on how faculty help students develop disciplinary literacies. Such an understanding will enrich the body of Writing in the Disciplines (WID) research, and may build theory to support more studies of its kind. To that end, this study investigates the following research questions:

1. How do faculty in history and engineering approach writing instruction within their disciplines?
2. What are the primary factors that influence their approaches to writing instruction?
 - a. How do their own academic histories shape their approaches to writing instruction?
 - b. How do their identities as disciplinary practitioners (i.e., as historians and engineers) shape their approaches to writing instruction?
 - c. How do their views of the purposes of undergraduate education in general, and of their disciplines in particular shape their approaches to writing instruction?
 - d. What, if any, other factors influence faculty's approaches to writing instruction?
3. In what ways does the conceptual framework developed for this study account for or fail to account for these faculty's approaches to writing instruction in their disciplines?

Developing a coherent inquiry about the factors that shape writing instruction requires theoretical grounding. Merriam (2009) describes a theoretical framework as a foundation, informed by the literature, for the problem being investigated. Because the literature that I have found does not provide a pre-existing model for studying the

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phenomenon of interest, I have developed an orienting framework provides the foundation for an open-ended, discovery-oriented study.

The phenomenon I investigate is the content-course instructor's approach to writing instruction. In Chapter 2, I described and provided a rationale for the factors that bear on this phenomenon: 1) The instructor's history as a student (academic biography), 2) the instructor's role as a disciplinary practitioner as it manifests in their relationship to writing and texts (disciplinary identity), and the 3) the instructor's views of the purposes of higher education (educational ideology) (see Figure 1). I hypothesize that these aspects of the instructor's discursive and pedagogical approaches interact within a community, bounded by discipline, where knowledge is constructed through literacy activities and interaction.

Case Study Design

This study employs a multiple case design (Yin, 2014). I investigate four cases of faculty approaches to writing instruction, two instructors in history and two instructors in engineering, with the view that the method will enable me to parse the phenomenon from its contexts, and determine how the conceptual factors shape the phenomenon. Thus, each case is bounded by the discipline in general, and by the university's disciplinary department in particular. Each case is situated within the broader disciplinary and departmental context, but is also delimited temporally by the specific course(s) that each faculty participant taught during the semester in which data collection took place (fall of 2014). One history professor taught one course, the other history professor taught two courses; one engineering professor taught two courses; the other engineering instructor taught two sections of one course.

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Yin describes the logic undergirding multiple case studies as “replication logic” (2014, p. 57). This principle means that the multiple cases are not selected by the researcher arbitrarily, but because they are similar or different for theoretically anticipatable and defensible reasons. In this study, I have chosen two epistemologically disparate disciplines in the anticipation that approaches to writing instruction differ between them. Yin calls the prediction of contrasting results “theoretical replication” (p. 57). My rationale for selecting history and engineering is described below.

Not all scholars within a discipline think the same or teach the same (Lattuca, 2001; Salem & Jones, 2010). Therefore, it is important that I examine more than one unit of analysis within each discipline. Certainly, two instructors within each discipline will not provide the full range of variance among instructional approaches, but may indicate whether and what types of variance may be present. Multiple cases may illuminate contrasts and similarities *within* each disciplinary context, while the selection of multiple disciplines may illuminate contrasts and similarities *across* cases.

Yin (2014) describes the concept of “analytic generalization,” which is the postulation that theory used or developed within the study “is believed to be applicable to other situations (not just other ‘like cases’)” (p. 68). Unlike statistical generalization, or the researcher’s inference about a whole population based on the findings from a sample, analytic generalization does not assume findings will hold across other contexts. Rather, it advances theoretical concepts derived from the study. This dissertation utilizes the principle of analytic generalization in that it develops theory about the factors that shape disciplinary writing instruction, and presents a framework that may be usable in other research contexts (disciplines, institutions, etc.).

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Disciplinary and Institutional Contexts

This study takes place at Eastern University (EU)², a large research university in the Washington DC region. The university enrolls approximately 27,000 students, with nearly 4,000 students enrolled in the school of engineering and nearly 3,000 students enrolled in the school of humanities (where the history department is housed) at the time I collected data. EU does not have a WAC/WID program, and the faculty participants were not affiliated with any other writing initiative.

Because case study entails an in-depth inquiry into numerous variables and a variety of data sources (Yin, 2014), I limited analysis to two disciplines. I selected disciplines based on the taxonomy developed by Biglan (1973), and extended by Becher & Trowler (2001). This taxonomy posits that disciplines can fall into any of four quadrants: soft/pure, soft/applied, hard/pure, or hard/applied. In soft pure domains, “complexity is a legitimate and necessary feature of a holistic appreciation of phenomena,” whereas hard pure domains are marked by a “steady growth in knowledge” due to the “predictability of problems” (Lattuca, 2001, pp. 32-33). Conversely, soft applied fields attempt to understand “the complexity of human situations and enhanc[e] the quality of social and personal life” whereas hard applied fields “generally work toward some practical end and are judged by how efficiently they work toward this end” (p. 33). I selected disciplines from diametrically opposed quadrants— soft-pure (history) and hard-applied (engineering)—in the hopes that I could learn something about all four quadrants.

Choosing two disciplines enabled me to do an in-depth investigation of the instructors’ characterizations of discursive and epistemological frameworks that shape

² Institution’s name has been changed.

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instructors' approaches to teaching writing. Yet limiting the number of disciplines to two will allow me to collect and analyze the appropriate amount of data for each case within a reasonable timeframe.

Existing research into pedagogical approaches to disciplinary writing is limited across all disciplines in higher education, but is perhaps most attended to in the natural (i.e., "pure") sciences because of a "flurry of interest" in the rhetoric of science in the 1970's and 1980's (Conrad, 1996). Therefore I have selected disciplines that are different from the "pure" and "hard" sciences. History ("soft" and "pure") and engineering ("hard" and "applied") are underrepresented not just in the research on textual discourses, but particularly in research on approaches to teaching (writing) in these discourses. As VanSledright (2002) has noted, too little is known about "what constitutes good history teaching" (p. 74). Evans (1995) argues that engineering instructors need better understandings of how to teach writing in engineering. These disciplines, therefore, provide good contexts for this study.

Participants

Due to this study's emphasis on depth over breadth, I focus on a limited number of participants. All instructors are full-time faculty at EU. Choosing two instructors in each discipline enables me to explore patterns among the variables I have theorized, both within and across disciplinary contexts. My hope is that this number proves sufficient in uncovering the different influences and constraints on their writing instruction.

I have recruited what Patton (1990) calls "information-rich cases," or "cases from which one can learn a great deal about matters of importance" (p. 181). To qualify as information-rich cases, I sought faculty members who met the following criteria:

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- They have had long careers (10 years or more) in their discipline, which will render them deeply fluent about the knowledge goals and textual practices of their fields.
- They are, or have been, writers in their fields, so that they will be able to speak to their writing processes and writing identities.
- They assign at least some writing in their undergraduate courses so they could talk about the goals and strategies of their writing instruction.

I found my participants through a “snowball” or “chain” sampling approach (Patton, 1990). That is, I approached the chairs of the history and engineering departments, and asked who they might suggest as good candidates for the study. Department chairs forwarded my recruitment letters (see Appendix B) to potentially interested faculty, who then replied to me. One of these professors was Elaine Oliver³, who became a study participant. Because I had not received any other promising leads in history, I asked her to refer me to someone else in the history department. She referred me to Professor Scott Francis, and I sent my recruitment letter to him directly. The same thing occurred in engineering: I set up preliminary meetings with two faculty who had replied to my initial email. One of these professors was not available during the Fall, 2014 semester. The other, Professor Bernard Pesek, referred me to his colleague Jason Capello. During preliminary meetings with each candidate, I determined if these instructors met my criteria for participation, and if they were willing and available to participate.

³ All participants’ names and other potential identifiers, such as their course titles, have been changed.

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Participation required a time commitment from each instructor. Their willingness to make such a commitment may have biased the data—any instructor who volunteers to spend such time discussing or otherwise providing information about the discourse of the field, the nature of undergraduate education, and approaches to writing instruction may be predisposed to caring about some or all of these issues. Therefore, I reiterate that the participants in this study are not necessarily representative of other faculty in their field or at their institution. While these are “information-rich” cases and not representative ones, they are not meant to offer conclusions generalizable to the populations from which they come.

Data Sources and Collection

Scholars of qualitative inquiry are united in their claim that qualitative research, and case study in particular, require multiple sources of data (Maxwell, 2005; Merriam, 2009; Yin, 2014). By diversifying data sources, the researcher compares information streams through a process of triangulation, or as Yin calls it, “converging lines of inquiry” (2014, p. 120). Accordingly, I took a multi-pronged approach to data collection, with data sources including: a series of semi-structured interviews with faculty participants, document analysis, and field observations (see Table 1 for correspondences between research questions and data sources). Data collection and analysis took place throughout the Fall 2014 and Spring, 2015 semesters (see Table 2 for a timeline of data collection and analysis). Each data source is outlined below.

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Table 1

Research Questions and Corresponding Data Sources

Research question about phenomenon of interest:	Relevant Data Source
1. How do higher education faculty approach writing instruction within their disciplines?	Interviews Course Documents Field Observations
Research questions about factors of influence:	
2. What are the primary factors that influence higher education faculty's approaches to writing instruction?	Interviews Course documents & texts Field observations
a. How do their identities as disciplinary practitioners (i.e., as historians and engineers) shape their approaches to writing instruction?	Interviews Course documents & texts Field Observations
b. How do their own academic histories shape their approaches to writing instruction?	Interviews
c. How do their views of the purposes of undergraduate education in general, and of their disciplines in particular shape their approaches to writing instruction?	Interviews Field Observations
d. What, if any, other factors influence faculty's approaches to writing instruction?	Interviews Field Observations

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Table 2

Timeline of Data Collection & Analysis

Data Source	Data Analysis	Time Frame
Interview 1	Transcription/Field Notes Code Generation	Early Semester – September, 2014
Interview 2	Transcription/Field Notes Code Generation Theme Generation	Mid-semester – Late October/Early November, 2014
Interview 3	Transcription/Field Notes Code Generation Theme Generation Initial Theme Refinement	Late Semester – Mid- December, 2014
Document Analysis	Field Notes Code Generation Theme Generation & Refinement	Throughout Fall, 2014 semester
Informal/Unanticipated Data Sources	Field Notes Code Generation Theme Generation & Refinement	Throughout Fall, 2014 semester
Full Data Set	Theme Generation & Refinement Drafting of Report Report Write-Up	Early-mid Spring, 2015 semester Spring, 2015 semester

Semi-Structured Interviews

I conducted and recorded a series of three “prolonged case study interviews” (Yin, 2014, p. 110) with each participant over the course of a semester. Using a semi-structured format enabled me to pose questions designed with my research questions in mind, and also to explore other avenues of thought as they came up (see Appendix C). To check interview questions for usability and validity, I practiced questions at two different points, once on my adviser and once on a colleague. Based on their responses, I refined questions until I felt they addressed the topics I was attempting to address.

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Interview 1, which took place early in the semester, addressed research questions about instructors' academic histories and discursive identities. Interview 2, which took place mid-semester, entailed more in-depth explorations of research questions about instructors' actual uses of text within the courses, about their educational ideologies, and any other factors that may influence their writing instruction.

Interview 3 allowed my participants the chance to reflect on their responses from earlier interviews and on some of the inferences I had drawn from their responses. The final interviews also enabled me to ask instructors to reflect back on the course. I asked them to reflect on some of their previous responses, on the course(s) they taught that semester, and their writing instruction throughout the semester. Through these reflections the faculty-participants had the opportunity to add to or refine their thoughts about the histories, educational ideologies, and pedagogical stances that influence their teaching of writing. The end of the semester, a time when instructors may be reflective about what did and did not go well in the course, was an appropriate time to have this interview about bigger-picture issues pertaining to teaching and teaching writing. To respect the instructors' time, I asked for three interviews of one hour each. I interviewed four instructors three times each, which resulted in 12 interviews totaling about 12 hours.

Later, while I was synthesizing the data, I kept a running list of questions about facts or issues that were unclear to me or questions that arose that the data did not address directly. In these situations, I conducted member checks, via email, with participants to insure that my inferences were valid. Each participant replied with answers to my questions, and I added their replies to my data set.

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Course Documents and Texts

Bawarshi describes the classroom as a “discursive site, one mediated and produced by the various genres its participants use...” (2003, p. 117). He goes on to describe course syllabi and writing prompts as particularly salient teacher-produced genres that “shap[e] and enabl[e] how writers recognize and participate in sites of action” (p. 143). I surmised that these instructional texts explicitly assign and/or implicitly model the kinds of discourse that instructors want their students to take up, and thus would help to answer research questions 1 and 2a. I analyzed course syllabi, writing assignment prompts, rubrics, writing guidelines, and in the case of engineering, product specifications and mission requirements. Some of these texts were generated by the instructors themselves, and some were written collectively among department or program faculty. The documents’ authorship may be an important clue about how writing instruction, and instruction in general, can be shaped by departmental and/or disciplinary contexts.

Data Analysis

Because the conceptual framework I bring to this study is an orientation to the phenomenon and is not definitive, inductive analysis played a strong role in my approach to the data. As Merriam (2009) notes, analysis can begin during (and not merely after) data collection. Therefore, I engaged in recursive data analysis as soon as I began data collection, and up until I completed the report through the following methods.

Using my iPhone’s Voice Memos application, I audio-recorded all interviews and transferred all the audio files to Dropbox, a password-protected application that allows me to store files on the cloud (and which also protect the files in the event that something

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happens to my laptop's hard drive). I transcribed all recordings myself because listening to recordings is an important part of familiarizing oneself with one's data (Braun & Clark, 2006). I wrote memos during the transcription process—as the recordings jogged memories and reflections, I paused the recording and took notes. Because field notes are an essential component of analysis, and because Lareau (1989) strongly recommends that field notes be written up as soon as possible after fieldwork, I set aside time soon after each interview for this memoing/transcription process. If I was not able to transcribe within 48 hours of the interview, which happened on a couple of occasions, I wrote memos from memory soon after the interview and then began the transcription/reflection process as soon as I could.

I anonymized and stored all transcripts, memos, and (digitizable) course documents in my password protected Dropbox folder. I uploaded the files to Dedoose, a qualitative data analysis software application, and adapted Braun and Clark's (2006) protocol for thematic analysis of the data set. The phases for this process, which I modified to suit this study and my own style of thinking and writing, are as follows.

1. During the first phase I generated the initial codes. I coded all the data descriptively (Saldaña, 2013) for all instances of participants' writing instruction.
2. Because this study is theory-driven, I coded the data a second time according to my conceptual framework (which is represented by research questions 2a-d) and I remained open to new codes as I went. If a new code emerged in the midst of analysis, I re-coded the previously coded data with the new code in mind.
3. The next phase involved the review, refinement, and naming of themes. After I coded the data set twice, I had two sets of codes, one descriptive, and the other

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conceptual. For each set of excerpts I undertook an intensive process of extraction and re-organization. I cycled through the excerpts for each code-set, and copied and pasted excerpts from Dedoose into Word documents (one for descriptive codes, and one for a priori codes). As I copied and pasted excerpts into each Word file I created, refined, and re-created headings and subheadings for categories of excerpts. Sometimes these categories remained true to the original codes (like the variables within the conceptual framework), and sometimes these categories evolved from the original codes. I continued to re-arrange excerpts under headings and subheadings until they “fit into the broader overall ‘story’” (Braun & Clark, 2006, p. 92) of each case.

4. The final phase was the write-up of analysis. Writing is not a mere after-the-fact representation of thought, but rather aids in the production of ideas (Elbow, 1993; Emig, 1977). I cannot overstate the extent to which this was true for me. Despite assiduously coding and re-coding, and analyzing and re-analyzing my data, my findings continued to emerge as I drafted each case. Findings crystalized with an even truer clarity as I revised (and in many places, completely re-wrote) my cases.

A case study report can be structured any number of ways, ranging from comparative (where alternative explanations of the same case are described consecutively), to chronological (where the sequence of the write-up reflects the temporal sequence of events within the case), to theory-building (where each section reveals a “new part of the theoretical argument being made”) (Yin, 2014, pp. 188-189). Stake offers topical or “storytelling” formats as possibilities (1995, p. 125). Because my cases are situated within two disciplinary contexts that offer illuminating contrasts, and because I am

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determining the utility of a conceptual framework, I take both a comparative and theory-building approach to my report structure. Each case is organized around the first and second research questions, with a description of approaches to writing instruction coming first, and an analysis of factors that influence writing instruction following. The study's final chapter contains a cross-case analysis, a refined conceptual framework, and implications for further research.

Limitations of the Study

Methodological limitations are present in all research studies, and this study is no exception. First, while the study attempted to build theory about disciplinary writing instruction through the use of a conceptual framework, the use of any framework may have a simultaneous unintended effect of limiting understanding. Kenneth Burke (1989) argued that, "Even if any given terminology is a *reflection* of reality, by its very nature as a terminology it must be a *selection* of reality; and to this extent it must function also as a *deflection* of reality" (p. 115). By selecting the variables of this study's framework, I may have deflected attention from other variables that may explain the phenomenon in different ways. I made efforts to minimize distorting the realities of disciplinary writing instruction in two ways: (1) by grounding the components of my framework in existing education and composition literature, and (2) by remaining open to findings that directed me to new themes and variables.

Second, I willingly traded breadth for depth of understanding in this investigation. Nonetheless, a sacrifice of breadth brings methodological limitations that must be accounted for. The participants of this study are small in number, they represent a small number of disciplines, and they represent one institution. Their approaches to writing

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instruction cannot be supposed to represent the approaches of other faculty in other disciplines and at other institutions. One specific example of the limitation of this study's sampling process was that the two engineering faculty-participants taught in the school of engineering's Axis Program. The Axis Program billed itself as a unique, design-centered approach to engineering education. Therefore, we must be clear that these faculty are not representative of engineering education as it is typically provided at EU. I attempted to mitigate that limitation by being very clear in my case findings about the instructors' professional contexts, and incorporating discussion of the program's influence on the faculty whenever it was relevant.

A third limitation of this study is that it does not collect data from any students. Thus, our understanding of the faculty's writing instruction is necessarily limited to their espoused intentions and strategies, to the course documents they provide to their students, and to a few observations of them in the classroom. While this study is intentional in its focus on faculty and the variables that influence them, future research of this kind would profit from attention to how students in the disciplines respond to writing instruction, and what kinds of factors shape their uptake of disciplinary discourse.

CHAPTER FOUR: THE CASE OF PROFESSOR SCOTT FRANCIS

In this chapter I describe the case of Professor Scott Francis. The chapter, like all cases in this study, contains a brief professional biography, a description of the courses Professor Francis taught during the semester that I collected data, and responses to the following research questions: *1. How do higher education faculty approach writing instruction within their disciplines? 2. What are the primary factors that influence higher education faculty's approaches to writing instruction?*

Scott Francis has been an associate professor of history at Eastern University (EU) since 2006. He received his Bachelor of Arts in History at Cambridge University in 1999, and earned a PhD in History from Harvard University in 2006. He is an early Americanist and a cultural historian who is interested in “print culture, representation, meaning, interaction, symbols, [and] things like that.” During the Fall 2014 semester, Professor Francis taught two courses. One was a 100-level history course, entitled “Everyday People of the American Revolution” (hereafter referred to as “Everyday People”), which he has taught approximately five times before. It was a lecture course with 117 students enrolled. These students were primarily non-history major first-year students taking the course for “CORE credit,” which refers to EU’s set of undergraduate general education requirements. According to the syllabus, the goal of the course was to

...challenge us to examine a familiar topic – the American Revolution – from an unfamiliar perspective. It seeks to shift our understanding of the causes, meanings and consequences of America’s founding conflict by confronting us with the textual traces left by ordinary people. It invites us to discover how the people at the bottom of society understood convenient catchwords like liberty, tyranny, democracy, and revolution, and challenges us to develop the quantitative, analytical and interpretive skills that practicing historians use daily.

The second course Dr. Francis taught during the Fall 2014 semester was a 200-level course, entitled “Combatting Slavery,” which he was teaching for the first time.

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With an enrollment of 20, this seminar-style course for students in the Honors College at EU asked students to “examine the different tools and tactics, means and methods that Americans have used to escape slavery,” and to “confront a sequence of interpretive, analytical and quantitative assignments conceived around the grand problems that animated all those who fought to end slavery” (course syllabus).

Approaches to Writing Instruction

To answer my first research question about how participants approached writing instruction, I coded data descriptively with the broad overarching codes “Writing Assignments,” “Goals and Strategies,” and “Feedback and Assessment.” I then read these excerpts again, and refined the overarching themes into subthemes that enabled me to visualize a coherent account of Professor Francis’s approach to writing instruction in *Everyday People and Combatting Slavery*. I present this account according to those themes and subthemes.

Writing Assignments

Professor Francis assigned mostly academic essays in both of his two courses, *Everyday People and Combatting Slavery*. In both courses writing played a central role in eliciting students’ historical reasoning and critical thinking.

Everyday People of the American Revolution. The *Everyday People* syllabus claims that the course “challenges us to develop the quantitative, analytical and interpretive skills that practicing historians use daily.” This sentence is the only reference to writing in the course description. In spite of the vague allusion to writing, all course assessments were writing assignments: three essays and an in-class final exam with an

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essay component. Writing assignments and final exam were worth 80% of the total grade, with the remaining 20% attributed to participation.

All the assignments had evocative titles. The first assignment was called “Who Read *Common Sense*?” Equally evocative was the writing prompt’s opening narrative, which opened with the statement, “Scholars are in awe of Tom Paine’s *Common Sense*” and highlighted Paine’s belief that, “his 46-page pamphlet had reached every household in America.” The narrative continued with a claim that “Scholars have generally echoed Paine’s big, bold claims,” and concluded with the rhetorical question, “It’s a great story, but is any of that actually true?”

Following that opening hook, the assignment asked students to pay special attention to “the issues surrounding access and affordability that likely influenced ordinary Philadelphians’ exposure to Tom Paine’s pamphlet and its arguments for independence.” Totalling five pages, the writing prompt provided extensive guidance to students, including direction on sources, footnotes, and style. Even more noteworthy was the implicit request that students critique or refute what historians have long claimed about the impact of *Common Sense*. Asking students to determine whether scholars’ claims about *Common Sense* are “actually true” implied that students’ interpretations are, or have potential to be, on a par with professional historians.

The prompt introduced students to disciplinary norms by invoking the practice of professionals and explaining that Professor Francis would assess students by a professional standard. The prompt continued its discussion of the ways that historians establish the truth of their claims through evidence, and implied that students could ground legitimate refutations of scholars if they backed their claims:

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Historians use direct quotations to evidence their claims, to provide examples, and to show how the people they write about spoke or thought. Each quotation should be introduced, set in context and explained. Papers that lack such direct evidence cannot succeed.

Dr. Francis invoked professional historians again later in the prompt, this time including students within that group of experts through the use of the first-person plural:

“Historians write about the past, so we use the past tense to describe things that have happened.”

Additional parameters included a limitation of permissible sources to 18th century newspapers, an excerpt from a secondary source, and any of the course lectures or readings. Placing such tight restrictions on permissible sources, Dr. Francis told me, is “part of a—you know, universal anti-plagiarism, academic integrity, sort of strategy.” While the prompt promoted the students’ professionalization by asking them to contribute to a conversation among scholars, it simultaneously curtailed students’ use of secondary sources.

The second assignment, “Deserting Washington’s Army,” opened with the questions, “Why enlist in the Continental Army? Why desert it? Such questions seem straightforward enough.” As with the *Common Sense* assignment, the “Deserting” prompt opened with an assumption about the seeming straightforwardness of desertion practices in the Revolutionary War, and then asked students to use primary source evidence to problematize that assumption. The prompt explained that “desertion notices,” the newspaper advertisements offering rewards to those “who could aid in the recapture of deserting regulars,” offer “clues” about “the kinds of men who abandoned their Continental Army posts” during the Revolutionary War.

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His pedagogical approach of asking students to use primary sources as clues for understanding the lives of everyday people reveals Professor Francis's own approach to constructing historical knowledge. These writing assignments evoke microhistory, a method of doing historical research that uses the stories and experiences of individuals to serve "as an allegory for broader issues affecting the culture as a whole" (Lepore, p. 133, 2001). Professor Francis told me during our first interview that he was "drawn to microhistory as a teacher because microhistorians tend to privilege narrative in the way they explain their subject, and undergraduates understand narrative and are not put off by narrative."

In his description of the third writing assignment, entitled "Ashley Bowen and the Pursuit of Happiness," Professor Francis offered a more detailed understanding of the lens through which he wanted students to view the Revolutionary War. His explication of the assignment shows he viewed writing as a means for tying small details to broad claims. He emphasized that what made Ashley Bowen a valuable subject for the assignment was his "everyday-ness":

The third assignment is an excerpt of a memoir of a man who used to make sails for ships, who lived in Gloucester, Massachusetts, a seaport town. And he lived during the Revolution... and he's not an exceptional man, he's not extraordinary in any way. The only thing extraordinary about him is that we have his crappy diary—it still survives, right—it's no great, amazing thing. And we have a few letters he wrote. He [was] barely literate. And my question is—one of the questions I ask to the kids in almost every lecture is, "Did the American Revolution make people happy?" Right? And the question is, well, which people and what do you mean by happiness? Right? So the question is, did the American Revolution make Ashley Bowen happy? And they have to use the very hard to find sort of breadcrumbs of evidence from this document. And they have to connect them to reading and lecture material I presented about ordinary people like him, about life in seaport towns, about sailmakers, about sailing, about men vs. women, about whites vs. blacks and, of course, in the course of the course, to connect that with the primary document they're focusing on to create an intelligent response to that question.

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Dr. Francis echoed here what Lepore (2001) writes about microhistorians— that, through their investigations of an individual, microhistorians are “keen to evoke a period, a *mentalité*, a problem” (p. 132).

The two-hour, in-class final exam was entirely writing-based. The first part asked students to write short paragraphs identifying items such as people, places, quotations, or images from the course and explaining its “significance for the study of ordinary lives in the American Revolution.” The other half of the exam consisted of an essay, which corroborated Dr. Francis’s priority for highlighting the experiences of everyday people and marginalized groups. In the “Final Exam Preview” document, Professor Francis gave six possible exam questions; two of those questions appeared on the exam; students had to respond to one. “So theoretically they’re preparing for all six, or at least all five, statistically,” Dr. Francis told me. The Final Exam Preview document posed questions as to whether women’s lives were transformed during the Revolution, which factors contributed to a person’s decision to be a Loyalist or Patriot, whether a war was necessary to resolve the “imperial crisis,” and whether the Revolution enabled African-Americans to pursue happiness more easily than before. According to the study guide, “the best essay answers will contain” an introductory paragraph with a clear, brief, and forceful thesis that makes an argument; paragraphs that contain topic sentences; evidence from lectures and readings; and “Sensitivity to change over time and to the ways that race, class, and gender affect individual experience.”

Combatting Slavery. Like the Everyday People syllabus, the Combatting Slavery syllabus opened with rhetorical questions: “How do you slay a many-headed monster? How do you defeat an economic system deaf to the cries of conscience and

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morality? How do you destroy an entrenched special interest that profits from treating people like property?” The questions gave way to a narrative that described the centuries-long effort of the men and women who worked to eradicate slavery, and culminated with the line, “This course offers students a rare chance to step into their shoes.”

Like the Everyday People course description, this course description did not make explicit reference to writing, but claimed that “students will confront a sequence of interpretive, analytical and quantitative assignments conceived around the grand problems that animated all those who fought to end slavery.” Here too, all course assignments were written: three essays, and a take-home essay exam. In *Combatting Slavery* the writing assignments and final exam were worth 70% of the total grade; participation was worth 30%.

The assignments of this course reiterate Professor Francis’s general efforts in *Everyday People* to assign interpretive essays, to elicit the use of evidence for backing claims, and to position his students as contributing members of the field. Dr. Francis called the first assignment “I Was Born...” and requested that students write an “interpretive” essay by “perform[ing] a comparative close reading” of two autobiographical ex-slave narratives, and “to determine how these free-born Africans interpreted, experienced, opposed, endured and ultimately transcended their enslavement.”

Like the *Everyday People* assignments, outside sources were restricted. Moreover, the same exact language regarding style, quotations, and footnotes was used in prompts for both courses. The day he discussed the “I Was Born...” assignment with his students, I observed Dr. Francis tell them, “Because this is a history course, we deal in evidence

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rather than fantasy.” He then requested that evidence from the readings or course lectures be featured “front and center” in each paragraph. This verbal reference to the norms of the discipline and use of the first person plural echoed the written instructions in all of Dr. Francis’s writing prompts that “Historians use direct quotations to evidence their claims... .” With this language Dr. Francis may have been positioning students as contributing members of the field, or at least challenging them to see themselves that way through their adherence to the conventions of the field.

The second assignment required students to analyze five issues of the *Rights of All*, an African-American owned and operated newspaper that was established (and folded) in 1829. In their “interpretive essay,” students debated the claim that the *Rights of All* was not an anti-slavery newspaper, and performed a “content analysis” of the primary sources to do so. Professor Francis told me the prompt was “written as a—I give a statement and I say debate the accuracy of this statement. So it’s written... in an explicitly argumentative way and invites an explicitly argumentative response.”

The third assignment, “Black and Blue,” asked students to determine whether the black soldiers of the 54th Massachusetts Volunteer Infantry Regiment in the Civil War were “knowingly and purposefully engaged in the fight against slavery.” Professor Francis required students to use letters from several members of the regiment as their only sources. For all the writing assignments in this course, Professor Francis offered students the opportunity to send him a draft a few days before the final draft due date, and he would provide feedback. (He also humorously noted during my observation of his class that “you can send me a thesis, you can send an outline, you can send stream of consciousness ideas you were having in the shower...”)

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When I asked him about the final exam for Combatting Slavery, Professor Francis told me he “had the idea before class started that I would tell students on the very first class meeting what was going to be on the final exam. And that’s what I did.” On the first day of the semester, he gave his students three questions; they would choose one for their take-home final essay exam:

1. Critically interrogate the role of literacy and the written word in promoting opposition to slavery in America.
2. Critically interrogate the range of actors represented in this course who are engaged in opposition to slavery in America.
3. Critically interrogate the varieties of opposition to slavery in America represented in this course.

He later thought of a fourth, “totally different” question: “If all the people we’ve met in this course could be cryogenically frozen, who would you bring back to fight slavery today?” He gave his students an updated list of these four questions two weeks prior to the exam’s due date. With these exam questions, Dr. Francis asked his students to engage in a critique of the course. He told me,

I’m asking them to critique who I’ve chosen to talk about in this course, as people who fight slavery. I’m asking them to critique what I’ve counted as ways to fight slavery, and what by implication I’ve excluded as legitimate ways to fight slavery. So I’m effectively asking them, you know, if you were teaching this course, who would you include? Who would you not include? What strategies of opposition to slavery would you include, or would you not include?

Summary. In spite of the courses’ differences in size and level (one was an Honors College seminar, the other was a large general education lecture course), all assessments in both courses were writing based. The assignments in both courses were very similar: all were academic essays, and all asked students to make interpretations and assert historical arguments based on evidence from primary sources. In both courses the writing assignments compelled students to explore non-traditional perspectives, and Dr.

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Francis even asked Combatting Slavery students to critique his presentation of those perspectives in the final exam. Prompts and rubrics were very similar (the parts on style and formatting were exactly the same), which indicates that Professor Francis viewed writing as fulfilling a singular purpose, irrespective of course size and topic. Considering the labor involved in assigning writing, Dr. Francis deliberately selected writing assignments because he viewed them as more profitable for students than other, less time- and labor-intensive assessments.

Instructional Goals and Strategies

Dr. Francis used writing to advance a number of goals in his courses, and deployed particular strategies in his teaching. He viewed writing as a means through which students could engage in interpretation and critique, and he characterized writing as a way to help students practice ways of thinking and practicing that were at times specific to history and at times “generic.” Dr. Francis employed a number of strategies to support his students’ writing, including thoroughly preparing his students for writing, and soliciting input from teaching assistants (TAs) and students.

Writing as a tool for developing interpretive skills. Across both cases, Professor Francis’s writing prompts indicate that he wanted his students to engage in critique and interpretation through their analysis of primary sources. When I asked Dr. Francis about his goals for his writing assignments, he confirmed that writing is uniquely suited to eliciting interpretation through a process of “grappling.” In his words,

[Grappling] is something they do in discussion, but to grapple on the written page is different than grappling in oral discussion. I want them to have to make choices, at least for the first two assignments, about which primary sources can be useful to them, so there’s an element of judgment in the act of selecting which newspaper advertising to apply to the “*Common Sense*” writing assignment, for

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instance. There's an element of judgment involved in figuring out what elements of a particular primary source item are significant.

Professor Francis's excerpt above indicates that the judgment entailed in primary source analysis is an important skill, and that one significant purpose of his writing assignments was to help students render those judgments. Natalie, Professor Francis's TA for Everyday People, confirmed Dr. Francis's emphasis on the issue of reliability and the necessity for keen judgment when studying primary sources:

So many of my undergraduates that I was teaching this semester, when I would ask—we would be talking about a memoir or a newspaper article, and I would ask them, “Is this true?” And they would all look at me like I'm stupid, like, “Of course it's true, it's a historical document and you're giving it to me in a college level class, and it was provided by a professor, like, of course this is true.” And I was like, “What would make—what sort of signs, what sort of strategies, or tools or literary devices are being used in this newspaper that might make you doubt its validity?”... And when you start asking undergraduates that question you realize there are these sort of underlying assumptions that historical documents—anything that was written in the past— if it's printed in the newspaper, if it's in the Constitution, it's true. It's taken as fact.

Professor Francis wanted students to confront their assumptions about the veracity of primary sources. Sources can provide information, but determining the reliability of that information requires an additional layer of evaluative thinking that Dr. Francis evidently believed was important. Natalie's remarks corroborated Dr. Francis's assertions that, in discussion section, students examined issues of truth, reliability, and significance. But as Dr. Francis's own comment above indicates, he does not believe students achieve that level of thinking through class discussion alone, but must also “grapple on the written page.” These remarks help ground Dr. Francis's goals in assigning writing as a means for developing evaluative thinking.

Writing to achieve disciplinary and generic goals. At times Professor Francis claimed he wanted to inculcate in his students modes of thinking and practicing that were

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specifically historical. But mostly, he had broader, generic objectives that he claimed transcended discipline. I found, however, numerous instances when he characterized his goals as generic but disciplinary values were evident. While he asked his students to employ disciplinary conventions in their writing, he did not always consciously acknowledge these writing practices as disciplinary in nature. In fact, he characterized many of his objectives as

...much more generic and not specific to this particular course, or to the use of primary sources. And that's, you know, basic essay-writing objectives which I think most history professors would voice if you asked them this question.

In this excerpt Dr. Francis described his goals as generic, which implies an absence of discipline. Yet his frame of reference was the pool of “most history professors,” which showed he was not thinking beyond the borders of history. At another point in that interview, he referred to his assignments as “generic academic writing.” However, Natalie told me in an interview that the writing assignments asked students to think like historians. The difference between Professor Francis’s stated goals and Natalie’s characterization of the writing assignments suggests that Dr. Francis was not always cognizant of the extent to which his assignments invited students to participate in domain-specific practices and conventions. In Natalie’s words, “I think that the assignments are discipline-specific in the sense that it’s asking students to consider—it’s asking students to put themselves in the place of a historian.”⁴

⁴ The views of Professor Francis’s TA Natalie cannot be supposed to stand in for his own views. However, Dr. Francis encouraged me to speak to Natalie because “in a TA-assisted course like this, Katya and Natalie are on the front lines. They not only enact my policies as regards student writing, but share in the development of those policies, and also enact their own policies regarding student writing.” As such, Natalie might be considered a kind of ambassador. She met weekly with Dr. Francis (who was also her academic adviser) to discuss the course, and though she sometimes proposed her own

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Goals for disciplinary inculcation and general intellectual development may not be mutually exclusive. However, Professor Francis did not always distinguish between the former and the latter. He typically acknowledged goals for writing that he considered “generalizable to all disciplines” (Carter, 2007, p. 385), but I found evidence that he was unaware that some of these aims were domain-specific. This extended excerpt from our interview illustrates the concurrence of generic writing goals and discipline-specific writing goals. I add emphasis to each goal, so they will be easier to distinguish from the rest of the text:

I want them to be able to craft a *thesis statement*. I want that thesis statement to emerge not from their conviction but from the *evidence* presented before them and their *critical reading of that evidence*. I want them to support that thesis with a series of paragraphs, which are varied, but which together support a large argument. I want each paragraph to have evidentiary support, where the student can pull directly from the given texts before them. I want them to use *each paragraph as a mini-essay*, so it has a topic sentence with a—previewing the argument, and maybe even a concluding sentence too, though that’s not really a big deal to me. I want students to figure out *when and how to quote* from the sources under discussion, whether they are primary or secondary sources. Um, I want students to understand what *paraphrasing* is, I want students unfortunately to figure out what *plagiarism* is, hopefully not the hard way. Um, I want students to, uh... yeah... have an *internal and external structure to their arguments*. I want students to learn how to *footnote in a historical discipline*; and, you know, footnoting standards vary hugely across the humanities, across academia, and across the University of Maryland as well. So we have to be clear about what Professor Francis means when he says footnotes and citations. We try and lay that out as specifically as we can in a rubric...

Many of these goals Professor Francis would consider generic, such as crafting a thesis statement, avoiding plagiarism, and understanding how to paraphrase. Some of them are overtly disciplinary, such as footnoting “in a historical discipline.” But other course

ideas she also worked hard to fulfill Dr. Francis’s intentions, both in letter and in spirit. I consider her contributions to be reliable and helpful data for triangulating with Dr. Francis’s own views, especially when she expressed an apparent contradiction to Dr. Francis’s claim (as above).

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documents illustrate that in this passage language describing purportedly generic writing strategies actually conceals their disciplinary distinctiveness.

An example demonstrates the disciplinary nature of *argument* and *evidence*. In the “Deserting Washington’s Army” assignment, students were required to make an argument about the “kinds of men who abandoned” the Continental Army, and their motivations for deserting. Students were to use evidentiary details to support their arguments, and these details might have included “the state and quality of deserters’ clothing and shoes, their injuries, diseases or physical impairments, and their military training, specialist skills, rank or experience.” While the use of evidence is a “staple of historical thinking” (Van Sledright, 2002, p. 1092), history does not have a monopoly on evidence as a principle of reasoning. However, the use of material details as evidence and the attention to the “particular time and place” reveal a certain kind of warrant that makes the reasoning process specifically historical. In other words, material and temporal context count as legitimate evidence in history, but those may not be relevant or useful evidence in the writing of another discipline. The process of attending to the details of time and place is called *contextualization*, and is considered a distinctly historical thinking process (Shanahan, Shanahan, & Misischia, 2011; Wineburg, 1991).

Dr. Francis’s goal was to get his students to use evidence to support their interpretations, and comparing his discussion of those goals with his writing prompts reveals that he was teaching those principles in a domain-specific way. He tended to conceive of his writing assignments as generic, even though they have attributes that are discipline-specific.

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Multiple modes of preparation for writing. Dr. Francis framed the assignments as scaffolded, so students could apply skills developed with the first assignment to the second assignment, and so on. Dr. Francis told students the assignment, “I Was Born...,” was in some ways the shortest and easiest. He pointed out that such a low-stakes writing experience would enable the students, who were not history majors and would perhaps therefore not be used to historical writing, to develop skills that could be applied to later assignments. During an interview he confirmed that he saw his assignments as building on one another. If they used feedback strategically, they would be set up for success later in the course. He told me,

I hope in those ways and others that the kids who got the Bs and Cs in the first assignment will realize if they look back at the comments from the first assignment, if they come and meet with me, if they show me drafts, that they will likely do better on the second assignment.

Professor Francis also provided guidance and feedback through multiple points of contact during the writing process. He presented the students of *Combatting Slavery* with the final exam essay questions on the first day of the semester, so they would have the maximum time to reflect on and prepare their responses. He set detailed standards in writing prompts that ran up to five pages long. In *Combatting Slavery* he was willing to read and offer feedback on students’ drafts in advance of the due date, and he asked his TAs, Natalie and Katya, to do the same in *Everyday People*. He also asked his TAs to “carve out” time in discussion sections to discuss upcoming assignments, and to offer extended office hours so they could be available to confer with students about their papers.

As a final example, Dr. Francis willingly accepted Natalie’s idea of implementing an activity called “Oops!/Bravo!”, where Natalie and Katya brought a photocopied page

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from one student's paper to their students in discussion section. Students could go through their photocopies with a pen, and correct errors in mechanics, citations, and footnotes. According to Natalie, this activity was such a success for teaching footnoting practices that when students turned in "the next round of papers, I would say 70% of the students got it." Dr. Francis's willingness to devote class time to discussing writing assignments, provide detailed prompts and feedback on drafts, and meet with students outside of class to discuss writing all demonstrate his belief in writing as an iterative process and his priority for providing as much support throughout that process as possible.

Adaptability and acceptance of input. An abundance of data points to Dr. Francis's willingness to accept input about his writing instruction and to make changes as a result. Using a feedback loop as a strategy for teaching and mentorship, he modeled his approach to writing as a process, showed his value for students' opinions and interpretations, and demonstrated a receptive and responsive persona. The input he solicited and received can be divided into two types: that which he received from his TAs, and that which he received from his students.

When I spoke to Natalie, she was effusive about how receptive Dr. Francis was to his TAs' input:

he really values what we have to say about the writing assignments and the final exam, and he does listen to us, and he makes changes, and it makes me feel really valuable, like "Oh my gosh, he's listening to me, and he takes what I say seriously."

For example, Dr. Francis was enthusiastic about allowing Natalie the pedagogical freedom to introduce Oops!/Bravo!, the writing exercise I introduced above, even though she did not believe he would use it in his own teaching. The pedagogical latitude Dr.

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Francis granted his TAs indicates that he believed they had an important contribution to make, even when their pedagogical style did not match his. He solicited feedback from his TAs about each writing assignment, according to Natalie:

Dr. Francis really seeks our suggestions and our comments, so for each writing assignment, before it was handed out to the students he sent it to Katie and I [sic]. And we had the chance to edit it. So he asks us to anticipate what sort of mistakes students are going to make. He asks us to see if in our own minds things seem confusing, if it's going to be unclear. He says, you are the TAs reading the paper, so you're going to know the mistakes students may make on the exam, on the writing assignments. So in that sense we have a bit of a hand in how the class is run—that we can sort of shape, never in a major way.

I think Dr. Francis seeks our comments and our suggestions more so than other professors do, but I also think he gives us more direction than many other professors do.

So in that sense I think we are really included in the teaching of the class, where other TAs have like no say in what the writing assignments are, have no control over the final exam. Scott asked both Katie and I to write the final exam. And we changed that drastically.

My observations confirmed Natalie's claims. During one of their weekly staff meetings, Professor Francis solicited ideas about how they would collectively guide students in upcoming writing assignments. He asked Natalie (Katya was absent),

Two follow-up questions would be, one, what do you want to say in class about the second assignment as we lead up to the third assignment, and two, what kind of feedback do you have for me about using this assignment again?

Later as they continued to discuss the third assignment, "Ashley Bowen and the Pursuit of Happiness," Dr. Francis said to Natalie, "Again I seek your feedback so I can head off [students'] issues and concerns."

Dr. Francis's adaptability exhibited itself in more subtle ways, too. At one point in the staff meeting, Dr. Francis attempted to shift the discussion to how students were structuring their essays. In spite of his attempts to change the subject, Natalie continued

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to discuss her impressions of the students' successes and failures with footnoting. Dr. Francis indulged her persistence with the topic of footnoting and never broached the issue of structure again. His apparent unwillingness to overpower the conversation is a further confirmation of his acceptance of input from others.

Professor Francis solicited feedback from his students in addition to his TAs, and he did so both informally and systematically. He viewed student feedback as a mechanism for improving his courses and his writing assignments. For example, two of the writing prompts he shared with me contained brightly highlighted notes he had written to remind himself of students' responses to the assignments. Such self-addressed notes indicate that he took this feedback seriously, and was considering incorporating it into future versions of the assignment. One of the notes on the "I Was Born..." assignment read, "Some [students] said there were too many prompts and wrestling together a thesis that encompassed all of them was burdensome if not impossible."

In *Combatting Slavery*, Dr. Francis solicited student feedback through his final exam questions, not just as a means for course improvement, but because he wanted students to be aware of the course's structure, and the nature of the subject matter. As he told me in an interview,

I'm asking them to reflect on the instruction of the course, which is slyly a way to generate feedback about how to improve the course next time, but also making them see that the syllabus they've been presented with is not the word of god, it's constructed by someone who's making choices about what to include, what not to include, what to highlight, what to de-emphasize.

Dr. Francis's solicitation of feedback from both TAs and students helps to complete the portrait of Professor Francis's approaches to writing instruction. In addition to showing that he used feedback in a cycle of pedagogical self-improvement, his requests for

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students' evaluations of his course add nuance to his views that students could use writing to engage in interpretation and critique.

Summary. In this section I have elaborated on Dr. Francis's goals and strategies for writing instruction. His goals were that students use writing to make interpretive, evidence-based historical arguments and to learn rhetorical strategies that are both disciplinary and generic in nature. His strategies for teaching writing included offering students multiple channels of support for their writing, and soliciting and adopting feedback from TAs and students.

His approach to writing instruction suggests that Professor Francis viewed writing as a process. He enacted that view in his teaching of writing, in his regular solicitation of feedback and in his refinement of writing assignments. He evidently wanted to instill in his students the view that writing is a process by encouraging them to turn in rough drafts and meet with him to brainstorm assignments. By extension, he hoped that students would transfer what they learned from one assignment to another.

Based on his emphasis on "basic essay-writing objectives," we can surmise that he expected the skills students honed with each assignment would be applied not just on the next course assignment, but also in their other courses and even other disciplines. By characterizing the writing skills he wanted to teach as "basic" and "generic," and by assuming that his feedback would be transferable from one assignment to the next, Dr. Francis indicated he approached academic writing as a "universally generalizable" skill (Carter, 2007, p. 387). A number of instances revealed that he did not always acknowledge the disciplinary nature of the writing he assigned—that the skills he wanted his students to develop were entrenched in a discipline-specific knowledge framework.

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Feedback and Assessment

Professor Francis's approaches to feedback reinforce his view that writing is a process, and is a means to interpretive and critical thinking skills. Just as he offered students multiple opportunities to prepare for writing before an assignment was due, he also wanted his feedback after the fact to contribute to their writing development. He supported his students' writing process by offering prompt, formative feedback, and by his careful attention to students' nascent ideas.

Criteria for assessment of student writing. Professor Francis graded the writing assignments in *Combatting Slavery*, and his TAs graded the assignments in *Everyday People* according to rubrics that varied little across courses and assignments. The criteria referred to structural issues such as *thesis* and *essay structure*; historical conventions such as *nuance* (which referred to the use of social and material details from primary sources that would help students support their arguments), *evidence*, *comparison*, and *quotations*; and mechanical conventions like *citations*, and *prose quality*. After the first assignment he changed the wording on the rubric, from "nuance" to "range," and "prose quality" to "writing quality." He told me he made these changes "in part because 'nuance' does not seem to be a word that all undergraduates know the literal meaning of, and in part because I felt that these assignments were sufficiently different that they required customized rubrics." Though he called his rubrics "customized," his approaches to grading were quite similar across both courses.

Prompt and formative feedback on student writing. Professor Francis incorporated prompt feedback into his approach to writing instruction because he viewed feedback as essential to students' writing development. In *Everyday People*, he "told students and TAs that we would do our very best to grade all 120 [sic] within two

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weeks,” and he asked TAs to grade the final assignment even more quickly so students’ would be able to profit from feedback in advance of the final exam. In spite of the strain it placed on his TAs, Professor Francis asked his TAs to offer a thorough response on each paper by writing

...comments in the margins, comments on the rubric, and he wants us to then write a two- or three-sentence message to the student in the comments section about the overall appearance of the paper and what they could do better (Natalie, personal communication).

Professor Francis told me that “there’s a lot of carry-through” between assignments, but this continuity had more to do with his efforts to bridge them via feedback than it had to do with each assignments’ topical similarity. His use of feedback demonstrated that he considered writing skills as something students could aggregate and apply across contexts. In *Everyday People*, he urged his TAs to discuss how students could use commentary on one assignment when drafting the next assignment. He told me,

In this particular week’s section, we have an interesting confluence of factors in that we’ve got feedback we want to share about the first assignment. We’ve also now passed out the second assignment, so we want to preview and set up kids for the second assignment.

And at another point in our interview he referred to Natalie’s “Oops!/Bravo!” activity, where TAs distributed a photocopied page of a real student’s paper to students in discussion section, and he praised it as a useful exercise in offering formative feedback:

[Natalie and Katya] were going to go through and say, “Look, these are three things this page does really well.” And then they were going to flip the page and say, “On the back of this page, I’d like you to write down the following three things that we think if you attend to them in the second assignment, you’ll do even better than you did on the first assignment.”

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Professor Francis wanted his students to learn from the mistakes that “crippled” them in their previous papers, and believed that these metacognitive activities would improve their future writing.

Careful attention to student ideas. Natalie emphasized Professor Francis’s inclination to be generous in grading. She claimed his generosity was more than merely a lenient attitude on his part, but was an ability to read his students’ papers astutely and carefully so he could find strong ideas buried in muddy prose. She said she learned a lot from him in this regard:

So in that sense he’s taught me how to really, truly value what students are saying and listen to them very, very closely. Where even in grading papers, when I’m not sure I’m getting it because it’s just not well articulated, he sees so closely what they’re saying. It’s like yes, it’s there, you just have to pull it out a little bit more. . . . to sort of really pull out what they’re saying and unpack it, and say, “You’re on the right track, you’re thinking there, let’s talk about this a little bit more, let’s develop it more, let’s not toss it aside and move on.”

She added that “he sort of churns through students’ thoughts and then presents them in new lights.” By urging his students to “develop” an idea and not “toss it aside,” he showed them that he valued ideas over mechanics or style, and he wanted to give them the incentive to pursue those ideas.

Professor Francis also rewarded his students for taking risks in their writing. For example, in *Combatting Slavery*, one of the final exam questions was, “Critically interrogate the range of actors represented in this course who are engaged in opposition to slavery in America,” and Dr. Francis told me that only a few students answered that question because it “freaked a bunch of them out, I think.” I asked him if he thought the question “freaked out” the students because they were worried that he would punish them for critiquing the course. He replied,

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No, I think I made it very clear that they would not be punished, in fact I'd be rewarding them, I'm inviting them... And as I explained verbally about this question in class, what I mean by that is, this class has decided to include certain people, and say "Here, when we think about who opposes slavery, we should think about this person, these people, these types of people." Right? Who is Dr. Francis excluding? Who is Dr. Francis not shining a light on? And to be able to answer that question not only requires courage and confidence, but it also requires knowledge as well, right? To know who's not been presented to you... But I did say to the kids, I think these two questions are the hardest, and I'll be very aware of that when I'm grading responses from people who attempt them.

Professor Francis openly admitted to his students that he would be grading the questions that require "courage and confidence" more leniently. Rewarding his students for answering the more difficult question says a couple of things about his approach to grading. First, he did not view grading as an objective metric that can or should be applied equally to all students' work. Furthermore, he did not view assessment as simply a retrospective judgment of static knowledge, but rather as a tool for drawing out and rewarding complex thinking.

Summary. Dr. Francis's approach to assessment supports his general view about writing: writing is not just a display of student thinking, but is an *enactment* of thinking. His prompt, formative, and careful assessment indicates a belief that students can learn and grow when they write; they do not simply use writing as a means for recording and demonstrating what they already know.

Conclusion: Approaches to Writing Instruction

These data reveal an instructor who values literacy in and of itself, and not simply as a means for students to display content knowledge. His support of students' writing processes, from brainstorming with them during office hours to offering and soliciting thoughtful feedback, reinforce his approach to writing as a tool for developing higher-order thinking skills like interpretation, analysis, and evaluation.

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The form of writing Dr. Francis assigned across both of his courses was the essay—an academic genre that he considered to embody “generic” characteristics of academic writing. However, as I have argued, the writing he assigned fulfilled disciplinary goals in ways that were evident in his prompts, but not his interviews. His assignments employed disciplinary conventions such as historical narrative, the critique of established scholarship, the use of sources and evidence in a distinctly historical way, and the use of historical stylistic conventions. As I will show in the next section, Professor Francis’s academic history, disciplinary identity, and educational ideology positioned him to teach writing in the ways I have described.

Factors Influencing Approaches to Writing Instruction

I have theorized that writing instruction is shaped by instructors’ academic biographies, or their own experiences as students; disciplinary identities, or their self-perceived roles as practitioners in their fields; and educational ideologies, or their beliefs about the purposes of an undergraduate education. After discussing the data that illustrate these factors I present another variable that arose in my analysis as an unanticipated influence on writing instruction.

Academic Biography

Professor Francis’s training to become a historian was marked by struggle, particularly during his high school and college years, but this struggle was alleviated by influential and caring teachers. These teachers had a defining effect on him as a teacher in his own right.

The struggle. The subject of history was very difficult for Professor Francis at the start of his academic career. The period of struggle, and the teacher who drew him out of

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it, were formative experiences for him. When I asked Professor Francis what first drew him to history, he told me straight off that he “used to be very bad at history, or at least when I was in the first few years of high school I was very bad at it.” His private high school’s policy of sending home student rankings reinforced his inadequacy: “So at the end of every semester you’d get a report saying, ‘Your son is 24th out of 24’ in whatever field it was—biology, history, whatever it was.” It was only when he encountered the history teacher who transformed his experience (described in the section below) that Dr. Francis became aware of his prior teachers’ limited pedagogical approaches to history: they “had focused on... memorizing names and dates of kings and queens and popes of Europe.” So Dr. Francis’s difficult introduction to the discipline of history may have been related to the pedagogical approach his high school history teachers used.

Perhaps in part because of his own experience in high school, Dr. Francis endeavored to be as engaging as possible in his own teaching. As he told me in an interview,

I’m drawn to microhistory as a teacher, um, because microhistorians tend to privilege narrative in the way they explain their subject, and undergraduates understand narrative and are not put off by narrative. Whereas more traditionally structured history books, which have topic sentence with the argument at the beginning of every sentence, undergraduates can sometimes find that unengaging or boring.

Dr. Francis demonstrated a value for narrative in his writing assignments, and he used narrative in his teaching, too. On the day that I observed his lecture course, *Everyday People*, he opened the course in a dramatic fashion with a story about Jacob Bailey, a British loyalist who fled with his family from Maine to Nova Scotia at the start of the Revolutionary War. Dr. Francis used the story of the Bailey family as a hook to capture students’ attention, and then moved to his broader point about the day’s lecture, which

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was on the Loyalists' perspective of the war. By telling the suspenseful story of the persecuted Baileys in a booming voice and with exaggerated gestures, Dr. Francis appeared determined to avoid the "names and dates" approach to history that his own teachers had taken.

Though he did not say explicitly that he designed engaging lectures and assignments as a direct result of his own academic struggle, Professor Francis did tell me that he tried to emulate the great teachers he had. One may reasonably extrapolate that he avoided creating for his own students the kinds of negative experiences he had.

Dr. Francis's initiation into history at the university was also difficult, though for different reasons. In England, Dr. Francis told me, colleges and universities do not follow a liberal arts model where students are required to take foundational courses across disciplines. Instead, at Cambridge, students declare a major at the start and take courses only in that field of study. When I asked if he would characterize the experience as an immersion, he told me,

Yeah, "immersion" is a good word. It felt like being dunked in a swimming pool, the deep end, right from the first year of freshman class, right? So the learning curve was extremely steep and of course many of us, myself included, didn't do great right away. It takes a long time to get good at that sort of thing. I wasn't a great student my first year of college, which is sort of a repeat of my high school years as well but by the end I feel like I'd figured out what they wanted and how to do that in a somewhat efficient manner. But those first few weeks and semesters I barely slept because I was reading 30 books a week, and that's madness.

When he said that "it takes a long time to get good at that sort of thing," Dr. Francis indicated that his education was a process of slow, painful acculturation. Dr. Francis told a story about his classmate, who encapsulated the typical Cambridge student

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experience. His friend, an English major known within their circle of friends as “English Chris,” had to

...write a paper about Spenser’s poem *The Faerie Queene* and to give it to the professor who happened to be literally the world expert on *The Faerie Queene*—like there was no one finer in the whole damn world. And English Chris is terrified, right? So he does his research, he writes his paper, he hands it in and he goes to sit in this tutorial, this supervision, for one hour and they talk about the paper, and at the end he gets the paper back from the professor... The professor gives the paper back and it’s like 10 or 15 pages of English Chris’s deepest thoughts about *The Faerie Queene*, and the professor has put one red line from the top left to the bottom right of each of the pages and the comment at the back, on page 15, is “I don’t think so.” [Laughter.] So, you know, it may be apocryphal, but you know it gives you the essence of the intensity of some of these exchanges.

Like his friend “English Chris,” Dr. Francis struggled to survive the immersion.

As he told me,

I wrote long essays every single week I was in college, three semesters a year for three years. And by long I would mean somewhere between 20 and 30 pages every week. And you would literally read a stack of books every week for eight weeks, three times through a year. So, whether or not that’s a good system, that was the system that pushed me through my college years.

Dr. Francis’s academic experience is not directly translatable to his teaching in the sense that he assigns copious and unmanageable amounts of writing to his students. Whereas he had to read hundreds of pages and write 25 pages a week as a student, Dr. Francis asked his own students to write papers that ranged in length from five to nine pages, three times during the semester. If anything, his current approach as a supportive, responsive writing instructor reflects a desire to ensure his students do *not* have the same overwhelming experience he had.

Professor Francis had ambivalent feelings about his experience as an undergrad at Cambridge, but it was clear from his telling that the intensity of the experience had developed into a kind of lore. On the one hand, Cambridge was so difficult that he found

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a PhD program at Harvard University to be quite manageable by comparison: “I found that I was sleeping more, I was healthier, I wasn’t like halfway towards the hospital by week 5 of the term.” On the other hand, he saw value in his undergraduate experience. He told me that “you become a specialist more quickly” in the British system, and early on he developed skills that good historians must have. His undergraduate years in England had taken on a somewhat mythical status by virtue of his now being an immigrant.

People, as a result,

...ask me about being British all the time so you work up a number of stories about what your life was like in Britain and so you wheel them out from time to time. And they’re hopefully true, but you never really know, right.

Whether or not his possible embellishments or exaggerations are a small form of boasting is unclear. But he did indicate that the stories he tells to Americans about his experience are often met with amazement (and I was no exception).

Professor Francis was unsure if his experience at Cambridge shaped his teaching, though he suspected it was possible. As he told me, “I have students in my classes who on the course evaluations at the end of Maryland semesters are always saying, ‘This history course was too much reading.’ And you know, maybe they’re right.” The implication here is that he assigned too much reading because he came from an academic culture where an excessive amount of reading was routinely assigned. But, as he later said, “Maybe sometimes I set more reading than some of my peers [at EU], but other times I bet I set less than my peers as well. And I think the too-much-reading claim comes from a disciplinary misunderstanding.” He meant that his students’ perceptions of a too-heavy reading load was not a result of his implementing Cambridge reading and writing standards in an EU context, but was rather a matter of setting the standards of

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history for non-history majors. As he put it, “So folks who come from science backgrounds think that reading ten pages a week is a lot,” he remarked, and “when you give them a hundred pages a week, they just don’t know what’s happening.”

Professor Francis’s difficult academic experience in high school and college had a decisive influence on him, and he used a number of strategies to avoid the unengaging, rote-memorization approach to teaching history—an approach he himself unhappily endured as a student. Being plunged into a life of intensive reading and writing also sheds some light on his relationship to literacy in the field. Further interpretation is required, however, to know whether or not his early struggles as a student had a direct influence on his approaches to writing instruction. Some of Dr. Francis’s influential teachers have clearer implications for his teaching of writing.

Influential teachers. A number of teachers transformed Dr. Francis’s experience with history, and cultivated an awareness that history is a discursively rich discipline that provides an ideal context for learning to read and write. He demonstrated in numerous ways that he desired to teach the communication skills that his own teachers taught him.

He encountered his first transformative teacher in high school. That teacher

...taught [me] about critical thinking, critical reading, critical writing. [He] focused on primary sources, and uh, that teacher changed my life, created a sort of passion, interest in history. Made me realize that history is a way to learn to think better, and write better, and read better, and by the time I was eighteen it was a very easy decision to think about being a history major in college as a result of that teacher. So as for many of us, a good teacher made all the difference.

Dr. Francis used the phrase “critical thinking, reading, and writing” a number of times in reference to his own teaching, which indicates a link between the values his teacher instilled in him as a student, and the values he holds as a teacher. Dr. Francis told me that his teacher “demonstrated through his pedagogy that history was of value, that

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history was skills-based, that history teachers can effect modest change in the world, um, on the individual level.” His teacher demonstrated that the discipline was meaningful beyond its content, and that it was a launching point for the development of literacy skills.

Dr. Francis told me that another powerful quality of his high school teacher was his emotional investment in students. He was not only passionate about the content, but was passionate about his students, a combination that was particularly meaningful for Dr. Francis throughout his career as a student and then as a teacher in his own right. Dr. Francis told me that his teacher’s

...pedagogical strategy seemed to boil down to disappointment, by which I mean he would show you he was emotionally invested in your success. That if you did well it made him happy, or much more likely if you didn’t reach the potential he knew you were capable of, he would show you he was disappointed in you. Which is another way of saying, he showed you he gave a shit.

Dr. Francis did his graduate work at Harvard University, where he worked with a professor

...who recently won the Pulitzer Prize, whose name is Laurel Thatcher Ulrich. And she had recently been hired by Harvard University to shake up the history department, which had been old, white men. And she was old [laughing], but she was a white woman and she does amazingly rich social and cultural history of early America that’s some of the most astounding stuff you’ll ever read.

Professor Ulrich embodied the same combination of traits that his transformative high school teacher exhibited. On the one hand, she did exciting work that ignited Dr. Francis’s scholarly interests—in fact, *A Midwife’s Tale*, the book for which Professor Ulrich won a Pulitzer Prize, is a microhistory. She also took on a mentoring role similar to that of Dr. Francis’s high school teacher:

She became the model for what I think a college professor should be, which is someone who is very warm, engaged, casual, I would say. And I mean that in a

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positive sense rather than a negative sense. She's also one of several mentors who've been older women who tend to be quite maternal, either toward me or towards other students they have and while it's difficult for me to embody maternal traits [slight laugh], I try to do my best from time to time.

Dr. Francis reiterated that his professor's mentorship had a direct bearing on his own approach as a teacher: "I have seen in her choices an enviable display of emotional capacity and intellectual acuity and have tried to model myself on those people as best I can."

Professor Francis demonstrated his warm and casual nature when a few of his students interrupted our interview. Our interview was taking place during the first week of the term, and at that time Dr. Francis was selling "source packs," or bound, photocopied collections of the primary sources that the students would be reading during the course. Throughout our interview, around five students dropped in at various intervals to give Professor Francis fifteen dollars, and get a source pack in return. Though the students' arrivals disrupted our conversation, they allowed me to see firsthand how Professor Francis interacted with his students outside the classroom. He asked the students' names, in part to keep track of who had purchased a source-pack, but also to make connections with them. Though he could have easily had his students pick up the source packs directly at a copy shop, Professor Francis used the source packs as a reason to bring his students into his office. The visit enabled students to see where he worked, and to see that they were welcome. Bringing his students into his office enabled Professor Francis to speak to them and express interest in them, even if only briefly.

Dr. Francis continued to express interest in his Everyday People students throughout the semester, even though 117 were enrolled in the course. As I observed in his lecture, he made an effort to call on students by name, despite their being in a large

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lecture hall. Also, during my observation of his staff meeting with his TA, Natalie, Dr. Francis expressed concern over a student in Natalie's section who had not been turning in writing assignments because she was suffering from depression.

Dr. Francis was warm and engaging with his Combatting Slavery students as well. On the day that I observed the class, he sent around a sign-up sheet where students were asked to sign up for a 20-minute "getting to know you" meeting with him. The timing of these meetings was good, he told them, because they happened around the time that students' first writing assignment was "brewing," and Dr. Francis would be available to help students think through their ideas. During class he was receptive and affirming of his students' comments, and after class he engaged in a joking banter with some students who remained to talk and ask questions.

Summary. Professor Francis showed sympathy for students who were falling behind, and it is plausible that he was channeling the influential teachers who pulled him out of his own academic struggles. He joked that his gender precluded him from being maternal, but to characterize his teaching style as nurturing and supportive would be apt. Aside from adopting his high school teacher's general value for "critical writing," Dr. Francis did not explicitly say that he models his own writing instruction on his mentors' approaches. However he did state that his own teachers provided the model that he tried to live up to as a teacher, and that influence was as evident in his approaches to writing instruction as it was in his other approaches to teaching. He developed assignments that built on one another, and he supported his students' writing at every step of the process by conferencing with them, offering feedback on drafts, and returning papers promptly. When students fell behind he contacted them (or asked his TAs to do so), and discussed

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ways that they could improve. We can thus attribute Professor Francis's priority for supporting his students' writing development to those who supported his own writing development, and as I will show, his situation within the discipline of history sustains that priority.

Disciplinary Identity

In this section I discuss Professor Francis's conceptions about what it means to know and practice history by analyzing his characterization of typical historical texts. He frames historical knowledge as complex, innovative, and argumentative, and as a tool for promoting social change, but he does not characterize all aspects of writing in his courses in such overtly disciplinary terms. The section concludes with an exploration of Dr. Francis's own self-conceptions as an author and identifies the impact of these views on his approach to writing instruction.

Disciplinary genres and knowledge values. The predominant discursive practices of history can help to demonstrate the kinds of knowledge that are valued by the field. The types and forms of historical texts Dr. Francis described reveal some of the epistemological values that he wanted his students to develop and demonstrate through their own writing. These traits included an appreciation for complexity, a willingness to innovate, and an ability to construct evidence-based arguments.

During our interviews I asked Professor Francis about some of the typical textual forms in history to try to get a sense of how knowledge values can be manifested in the discipline's discursive practices. He told me that "our field is dominated by the monograph, by books" because they are of a sufficient length to contain complex and thoroughly supported social arguments. Historical monographs enable historians to speak

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to one another, and feed off, or even “intervene” into, one another’s ideas. Dr. Francis told me that monographs

...allow us to say complicated things to an audience of people—to a readership of people who have read lots of books and come to academic discourse knowing a lot of the context into which a new book is designed to intervene, and fit.

Historians also publish articles “from time to time,” but they are “usually a means to something larger.” Dr. Francis described articles as distilled book ideas or proto-book chapters. This characterization is significant because it reinforces the idea that articles are not considered legitimate genres in their own right. They cannot sufficiently employ the fundamental attributes of historical discourse: description, sources, and argument. As Dr. Francis told me, magazine articles are

...not, of course, going to be thick with... thick in any sense. They’re not going to be thick with description, they’re not going to be thick with sources, they’re not going to be thick with argument. They’re going to be boiled-down distillations, or down payments on future books and things like that.

Dr. Francis was particularly attracted to microhistory, a historical subgenre that I described in a prior section of this chapter. A comparatively recent genre, microhistory has gained “considerable esteem” in the field, according to Dr. Francis. His attraction to microhistory indicates his own comfort with innovative research methods and narrative-driven writing, and he asked his students to do similar kinds of writing for their assignments.

That microhistory also carries with it some professional risks is potentially significant for his writing instruction. Dr. Francis speculated that not all historians consider microhistory an acceptable mode of research that warrants professional advancement. He told me that

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...if you engage explicitly in a narrative-driven mode of history-making for your first book, there may be some tenure committees or some people who vote in tenure decisions, which may not be cool with that, or might not see that as sufficiently rigorous, or as a sufficiently explicit demonstration of the mastery of certain historical skills.

He took issue with the secondary status of microhistory when he said that

...many microhistorians would argue that that's because we're trying to put those things in [to the text] implicitly, right? And if you read our footnotes, you see we've done the work. So there may be some tension there. But as second and third books, microhistories are hugely common. Many of our finest historians write one in the course of their careers, but it's never their first book.

These excerpts portray a disciplinary setting populated by texts—predominately books—that, develop interpretations and defend arguments based on primary and secondary sources, and fit into a network of other, similar texts. The networked nature of historical texts carried over into Professor Francis's teaching. He appeared to want his students to join a scholarly conversation through their writing. In the prompt for his first writing assignment for *Everyday People*, for example, Dr. Francis described some assumptions historical scholars have always made about Thomas Paine's pamphlet, *Common Sense*, and he asked his students to contribute to that discursive network by critiquing those assumptions.

Despite, or perhaps because of, the risks of doing microhistory, Dr. Francis emphasized it in his writing instruction. Dr. Francis was drawn to the genre, in spite of the discipline's ambivalence about its scholarly rigor, because it is "narrative-driven," and as he claimed, is engaging to students. He told me explicitly that microhistory was appealing to him both as a scholar and as a teacher because of its emphasis on narrative. He did not say explicitly that he valued microhistory because it is risky. However, he did encourage his students to take risks in their writing. For example, as I have said, Dr.

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Francis urged his students from *Combatting Slavery* to critique the course in their response to one of the final exam questions. Responding to that question, he told me, required “courage and confidence.” To innovate, one must take risks. The academic risk of writing a critical final exam essay echoed the professional risks of writing microhistory.

History as a means for critique and change. An important related aspect of the discourse of history, Dr. Francis indicated, is that it enables social change. One of the things that his beloved high school teacher helped him to see is that “history was of value, that history was skills-based, that history teachers can effect modest change in the world, um, on the individual level.” The ethos his high school teacher taught him endured in Dr. Francis’s teaching in that he wanted his course texts to force students to “confront some precious national myths” about slavery and the American Revolution. He wanted students to see, for example, that “the British did terrible things too, the natives did terrible things, everyone does terrible things in wartime. The Patriots are not exempt from that. So those sort of things are hard to swallow.” Professor Francis did not view history as a body of content knowledge that he must transmit to his students, but rather as a vehicle for instilling change on an “individual level” by eliciting new ways of thinking, and questioning entrenched beliefs through writing.

Professor Francis appeared to be aware of the political implications of asking students to confront their traditional ways of thinking. *Combatting Slavery* took an “antagonistic position” in that the course challenged students’ beliefs and asked them to think of the fight against slavery in new ways. He told me,

When we think of how slavery was fought, we think of Lincoln in his study with the stroke of a pen, and the Emancipation Proclamation, right? And that’s not

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wrong, but it's also not the whole story by any stretch of the imagination. Fighting slavery—people who fought slavery were not only presidents. They were white folks, they were black folks, they were enslaved, they were runaways, they were printers, they were preachers, they were everyone else. There's a thousand different ways to fight slavery, being president and signing the Emancipation Proclamation being only one. So that's not to denigrate Lincoln, it's to say that Lincoln isn't some sort of divine figure put on this earth to end slavery, while no one else has thought of it. So yeah. That's not exactly uncomfortable to hear, but it's a fresh—I hope—perspective for most high school, coming out of high school students.

His desire to challenge students' thinking spilled over into his writing instruction when he asked his students to critique historical scholarship in their essays, and to critique his own course in the Combatting Slavery final exam. Just as he wanted his students to understand that Abraham Lincoln was not a divine figure, he wanted them to acknowledge that he himself, a professor and authority figure, was also a human who makes judgments. Critiquing authority is a political act, which he believed entailed new kinds of thinking for students.

Writing identity. Microhistory is an appropriate path for discussing Dr. Francis's writing identity, because he was working on a microhistory of his own when I conducted this study. His first book was a “traditional history book—topic sentences, arguments, as many first books based on dissertations trying to get you tenure are in my field.” What is common for historians drawn to microhistory, Dr. Francis told me, is to produce a traditional monograph as a first book, earn tenure, and then go on to produce a second book in the less conventional genre.

Microhistory provides the link between Professor Francis's writing practices and his approaches to writing instruction. As he said, “I'm drawn, as a device of doing scholarship, to microhistory in the same way I find it valuable in the classroom.” Dr. Francis thought that a narrative-based approach to history could open people's eyes to

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historical issues in meaningful and engaging ways, and he wanted to capitalize on that engagement with his students too. Even his assignment prompts employed a narrative style by opening with a hook, telling a story, and concluding with a rhetorical question or two designed to inspire a thoughtful response.

Dr. Francis wrote in iterations, or stages, which paralleled his approach to teaching writing as a process. He lumped himself in with other historians in this regard, too, when he told me about the process by which articles and conference papers become book chapters:

Most of us write books in a sort of iterative way, a cumulative way, by which I mean books grow out of articles... So that's been my strategy writing the second book, which is several years away from being finished, by the way. I've written I think five conference papers about very different aspects of my story. I've turned at least—I've turned two of those conference papers into articles, which have either been accepted or published. And I hope when I've done more of that, I'll be able to start stringing together these components and have the backbone of my book. That my book's structure will become clearer to me, the more of these little pieces of writing I do from different parts of this story.

Dr. Francis encouraged students to recognize the iterative nature of writing by making himself available to discuss their essay ideas, he urged them to submit drafts so that he could give feedback before the due date, and he expected that they would apply his feedback from one paper to the next.

Dr. Francis's hope that his "book's structure will become clearer" as he moved through iterations of writing may be a significant detail. This comment clarifies Natalie's observation that Dr. Francis was willing to recognize students' incipient ideas, even when they were very rough. Acknowledging the potential for a strong idea involved an act of faith, and Dr. Francis seemed able to see that potential in his own work and his students' writing. Natalie told me that Dr. Francis will "really pull out what [students are] saying

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and unpack it, and say, ‘You’re on the right track....’” In both his own writing and in his teaching it seems Dr. Francis understood that writing is a process whereby ideas are gradually refined and clarified.

Summary. Texts in Dr. Francis’s field are “thick,” “complicated,” and critical of conventional takes on important historical developments. Dr. Francis asked his students to adhere to those norms in their writing. In particular, writing assignments revealed elements of the historical subgenre microhistory, which Dr. Francis was himself most immersed in. We can infer, as a result, that the discipline, and Dr. Francis’s role as an author within it, shapes his approach to teaching writing in observable ways.

In spite of the writing assignments’ use of disciplinary norms and conventions, Professor Francis often described his goals in assigning writing as “generic,” “universal,” or in terms of general pedagogical motivations. For example, Professor Francis characterized the final exam as a means for incentivizing and rewarding class attendance—a goal that overshadowed any claim that the exam might help build disciplinary knowledge. Yet the questions he asked on the exam reinforced the kinds of knowledge valued in the discipline. One of the exam requirements, for example, was to read a passage or quotation and respond to questions like, “Who said this? Why did they say it? What did they mean? What language tricks do you notice?” Questions like these reveal a framework where knowledge is built through the identification and interpretation of people, places, events, and texts, and the significance of these items is derived through rhetorical analysis. Yet when discussing his motives for designing the exam as he did, Dr. Francis acknowledged none of these characteristics. Instead, he said,

With any big course, you’re going to get students who come to section because they know that’s when class participation gets assessed, and they do the reading

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or pretend to do the reading, and who don't come to lecture because no one's taking attendance. Right? And I want to provide incentives to come to lecture. And I want to reward students in the final exam, and in assignments, with opportunities to display what they've learned in lecture.

If all he had wanted to do was reward attendance, he could have given a memorization test, which would have been much easier and less time-consuming to grade. But he gave a clue as to the assessment's disciplinary ends when he told me, "So the down-side is that kids can think it's a memorization test, when it's not really—I'm not asking you to regurgitate dates to me or anything like that." The exam prompt and other writing assignments did ask the students to engage, through their writing, in disciplinary thinking, though he was not always explicit with me about those goals.

The occasional discrepancy between his descriptions in interviews and his writing prompts hint at the possibility of what researchers call "tacit knowledge" (Becher, 1987; Cook & Brown, 1999; Elton, 2010). This stream of research makes the case that disciplinary experts may not always be "aware of the knowledge that they have to 'teach'" (Elton, 2010, p. 152), in part because they have been immersed in their field for so long that the norms and conventions have become second nature to them (Russell, 1997). The tacit nature of disciplinary knowledge may have strong implications for research on writing instruction in the disciplines. If instructors are not explicit about how discursive conventions fulfill the particular knowledge goals of a discipline, then students may inappropriately assume these conventions are useful across courses and across disciplines. Consequently, this finding points to the ways that disciplinary expertise can facilitate (or inhibit) explicit instruction about discursive norms and values within disciplines.

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Educational Ideology

Professor Francis's educational ideology, or views about the purposes of a college education, is made up of different aims, which include students' personal development and literacy development. These aims explain the centrality of writing in his courses, and his expressed hope that writing help students build generic higher-order thinking skills.

Personal development. Professor Francis indicated that an undergraduate education should lead to a student's growth and an expanded worldview, irrespective of discipline. He believed that students should confront the kind of discomfort that pushes them to think in new ways. He told me that in college, students should learn to become worldly, and to take on new perspectives. Describing his broad goals for education, Professor Francis told me:

Well, to use a cliché, I like the idea that an undergraduate education is about turning high school students into citizens of the world, and [the] first thing that comes to mind is another cliché about broadening one's horizons. I should put out that I teach study abroad from time to time and so that can sometimes be quite literal, you can take kids to places that aren't [local]. The president of this university—one of his initiatives is to strongly expand and encourage study abroad experiences for students, an initiative I can get behind a thousand percent.

Professor Francis went on to give examples of the unworldliness of many of his students, to make the point that his students are in need of such an education. He told me that on class trips to nearby Washington D.C. he had noticed that seniors at the university did not know how to buy a ticket for the Metro. The students' inability to use the Metro indicated to Dr. Francis that in their four years at EU, they had never before visited D.C. He also told me that when he led study abroad trips to England, on average "about 13 of the 16 kids have never traveled outside of the United States before." Broadening students' worldview was thus a major goal of Dr. Francis's, and he suggested that the university could help achieve that both in and out of the classroom:

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So travel is a sort of metaphor for what a good college education might provide, right? It takes you out of your comfort zone, it confronts you with unfamiliar people and points of view and cultural products. And that could be the intricacies of neuroscience, it could be studying pro-slavery people in Virginia in 1830... But you know, to knock people off their feet a little bit, to unsettle them, to force them to regain their balance, to master something new, to expand their horizons—again, the cliché—all of which I think is what most of us do in most of our disciplines every day.

His use of the phrase “comfort zone” is noteworthy here, because as I have explained, Professor Francis believed that his courses and his writing assignments could make his students uncomfortable in important, developmental ways. He told me that Everyday People’s confrontation of “precious myths” about the founding of the United States could sometimes be “hard to swallow” for students. A statement from the course syllabus corroborates what he told me: “This course will challenge us to examine a familiar topic – the American Revolution – from an unfamiliar perspective.” The purpose of the course, as this statement indicates, was to induce students to take on new perspectives, an experience that may be challenging to them. The writing assignments for the course appeared to have these goals embedded: the assignments asked students to adopt the perspectives of the ordinary people who read *Common Sense*, of the deserters of George Washington’s army, and of a Massachusetts sailmaker. These are not viewpoints students typically inhabit when studying the Revolutionary War. Dr. Francis’s efforts to confront students “with unfamiliar people and points of view and cultural products” were at work with these writing assignments.

Literacy skills. In addition to broadening students’ intellectual perspectives, Dr. Francis believed college was a place for learning literacy skills. He argued that the skills of reading and writing would serve students in their careers and in their lives in general.

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Using the demands of the job market to bolster his argument, he claimed literacy was a priority that transcended discipline. He told me,

I think most of us in any discipline would get behind the idea that we want students to think better, to read better, and to write better by the time they graduate. And I think that though they sound like humanistic goals, I think biologists could support those as well, right? ...For job purposes, which is what the president would support—you know, marketable skills in the modern labor force, but also better reading, better thinking, better writing, are life skills.

Becoming a critical writer was a goal Dr. Francis mentioned a number of times throughout our interviews, and the goal was apparent in both of his courses. Not only were all assignments writing-based, but the prompts asked students to engage in investigative, analytical, interpretive, and evaluative writing—attributes that feed critical thinking in ways that fact- or memorization-based assessments do not (Bransford et al., 2000).

Professor Francis elicited students' critical thinking in class discussion, perhaps to give them practice in employing these habits of mind in their reading and writing. When I observed his *Combatting Slavery* course, I made a note of the kinds of questions he asked in discussion. Many of these questions were designed to elicit higher order historical thinking. The questions he asked included:

- What patterns do you see...?
- What is the significance of...?
- Does this [from the text] mean [x], or does it mean [y]...?
- What explanations account for that fact?
- What year was that?
- Tell me about gender in these sources, and about the different experiences of men vs. women, and women vs. men.
- Let me just put a general question to you: How would [x] explain [y]...?
- Why would [x] people behave in [y] way?
- What struck you about...?
- How do you understand the possibilities for empathy among the slaving crews?
- How would you behave in this circumstance?

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- I've given you two examples of opposition to slavery (suicide and revolt). Can you think of any other examples?

The kinds of questions Dr. Francis asked in class were mirrored in his writing prompts.

For example, the first assignment, entitled “I Was Born...”, contained the following guidance:

Your assignment is to perform a comparative close reading of these two, short ex-slave narratives to determine how these free-born Africans interpreted, experienced, opposed, endured and ultimately transcended their enslavement. To what or to whom did they turn for solace and comfort? What survival strategies and coping mechanisms did each employ to deal with their debasement? How do the answers to these questions change over time?

Like the questions he asked in class, this assignment asked students to engage in comparison, to analyze and reflect on human experience, and to use textual evidence to substantiate their claims. The assessments Dr. Francis implemented in his classes, which ranged from low-stakes discussion questions to summative writing assignments, appeared to be designed with his skills-based educational goals in mind. These goals, as Dr. Francis told me, would not only have “vocational payoffs” but “being a better human being payoffs” as well.

As I have argued, Professor Francis did not seem conscious of the extent to which his disciplinary identity informed his writing instruction in his courses. I argue that discipline is embedded in his broader beliefs about literacy, and that his tacit disciplinary stance was in tension with his espoused beliefs about the purposes of education. As he framed it, reading, writing, and thinking skills were some of the main ends of a college education—writing was not a means to content knowledge, as much as it was an end unto itself. He told me,

I think you could ask most people here in the department, and most people would say history at the undergraduate level is about teaching skills of reading, writing,

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and thinking. Content is just a vehicle for that. And that's whether it's a 100-level course for 120 kids, or an Honors seminar, or anything else.

Professor Francis resisted the idea that discipline played a strong role in his educational goals. When I asked him if part of his goal as a history professor was to groom future historians, he told me that that would be a “fairly pointless exercise” because 17 of his 20 Combatting Slavery students were not history majors, and many of those were “STEM kids.” He said that they were taking his course to “tick a box” (i.e., to fulfill one of the Honors College course requirements), and would be “going back to Supply Chain & Logistics after this.” So, instead of grooming them into the discipline, he focused on his philosophy of “trying to work on humanistic reading, writing, and thinking skills.”

He took the same approach to Everyday People. He was “under no delusion that I’m going to convert 117 kids to history majors. But I might convert 5 of them, maybe, and that’s fine. That’s exciting.” His primary goals, as usual, were to have his students leaving the course realizing, “Wow, I’m a better writer or better reader or better thinker.” Disciplinary skills were only an added bonus, though apparently a small bonus, according to the metaphor Dr. Francis used: “If they leave the discipline with some of the discipline skills stuck to their sweater, then I’m fine with that. I’m pleased with that.”

But the disciplinary skills communicated by course syllabi, prompts, and rubrics were more obvious than bits of lint on a sweater. History-specific objectives ranged from formatting footnotes to structuring arguments. Discipline was inseparable from Professor Francis’s educational ideologies, but it was overshadowed by his general literacy goals. His goals in developing students’ writing necessarily entailed historical writing, yet as I have speculated, he may have been immersed in his field for long enough that historical

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writing practices had become normalized to him. “Historical writing” had become, simply, “writing.”

Summary. Professor Francis’s views were that a college education should lead to students’ growth, broaden their perspectives, and help them to become better thinkers, readers, and writers. He explained that expanding one’s perspectives was occasionally an uncomfortable experience, but that this discomfort was necessary for development. He aimed to provide opportunities for growth in his writing instruction by asking students to face new ideas that may contradict their long held beliefs or assumptions. His writing assignments appeared to be designed to enlarge their perspectives in ways that aligned with his broader beliefs about college education.

Dr. Francis argued that the content he taught was “just a vehicle” for teaching reading, writing, and thinking skills, and said most of his students would not one day be historians, or even history majors. Thus, he argued, inculcating in students the norms of the discipline was not a priority for him. I have demonstrated at various points in this chapter, however, that Dr. Francis discussed his writing assignments in ways that indicated he was not always cognizant of their disciplinary nature.

Departmental and Institutional Norms

I analyzed data inductively in order to address the research question, *What, if any, other factors influence faculty’s approaches to writing instruction?* In Dr. Francis’s case, departmental and institutional norms had minimal influence. The history department imposed few writing requirements on Dr. Francis. Departmental constraints did not shape *Everyday People* or *Combatting Slavery*, according to Dr. Francis, though he did mention requirements that influenced his writing instruction in other courses. He mentioned two

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major writing assignments in particular that are stipulated by the department. One of those assignments was the 90-page honors thesis, written by honors history students. The other was a 25-page paper required of non-honors history majors. Students wrote this paper in History 550, which the department's web site describes as a culminating course for majors. Professor Francis had taught the course occasionally, and he told me that aside from the requirement that the final paper engage in primary research and be 25 pages long, how he otherwise taught the course was up to him. He told me,

So that is the designated outcome for 550, that there has to be 25 pages of original, primary source supported, situated in secondary source research. But how we get there is up to the instructor, and the subject matter is up to the instructor. I teach a course about the nine lives of Benjamin Franklin. Other people teach a course about, I don't know, Walmart, or something else, right? But as long as we reach that final outcome—25 pages—how we get there is up to us.

A required assignment of this length and specifications would likely shape Dr. Francis's approach to writing instruction in that particular course, but whether or how the History 550 writing requirement had any effect on the ways he taught his other courses is unclear. He indicated that, aside from the honors thesis and the 550 paper, he was free to design his own assignments. As he told me,

I'm not aware of any requirement or pressure put on me by the department to determine how many assignments I design, what assignments they are, whether they're focused on primary, secondary, or blended—whether they're book reviews, whether they're performance art and we make a rap song—we can do whatever we want.

Professor Francis told me that he thought the department may have had expectations that instructors have both a midterm and a final exam in their 100- and 200-level courses, but he assigned midterms in neither of his courses. As he said, "I wouldn't be surprised if the chair of the department came in here and told me that I should be running a midterm in *Everyday People of the American Revolution*, which I don't."

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This remark demonstrates that, in Professor Scott's case, departmental expectations have such a minimal influence, he was easily able to disregard them.

His disregard is understandable, given how informal those expectations were. For example, I asked Dr. Francis if he could share any departmental documentation with me about the 550 paper requirement. He told me it was "probably written down somewhere" on "whatever list of requirements the Undergraduate Studies Director in this department—whatever curriculum we have at some point in the past signed off on...." Professor Francis emailed the department chair on my behalf, and asked for a copy of the documentation. The chair replied that he knew of no such document. Professor Francis forwarded the chair's reply to me and wrote in his email, "I'm surprised none of this is written down." I asked how he had learned of the 550 paper requirement in the first place—did someone tell him about it verbally when he first started teaching the course? Dr. Francis replied, "I guess so." The exchange between Professor Francis and the department chair shows how few constraints were placed on his teaching.

Summary of Key Findings

Here I summarize the key findings that address the research question about participants' approaches to writing instruction. In the second section I explain how the conceptual framework's factors and the emergent factor shape those approaches.

Approaches to Writing Instruction

The first key finding of this case is that Professor Francis's approach to writing instruction is characterized by the view that academic writing is generic. He depicted the content of the discipline as separable from, and second to, his primary goals for students' general intellectual development. That is, he viewed writing and literacy as fundamental

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to higher-order, critical thinking skills. He saw writing as a process that would enable students to expand their perspectives, and to challenge their own prior beliefs as well as dominant interpretations of historical events. He used provocative questions to stimulate critical thinking in each writing assignment and required students to communicate and defend their responses to those questions. He also emphasized writing as an iterative, growth-oriented process in both courses. His preliminary guidance, constructive feedback, and attempts at a personable, nurturing demeanor reinforced this process view of writing, and simultaneously conveyed that he cared about students' intellectual growth.

A second key finding is that while Professor Francis approached academic writing in generic terms, he also discussed writing and thinking in specifically historical terms. His writing assignments required students to engage in historical thinking through evidence-based primary source analysis, interpretation, and argument, and also required the use of formal historical conventions. The genre he assigned across courses—the academic essay, which he considered to be generic and universal in form—may have masked the disciplinary nature of these assignments. His primary goal of students' critical literacy may have further subverted his view of assignments' disciplinary nature.

Factors that Influence Writing Instruction

All three of the conceptual framework's factors appeared to have a profound influence on Professor Francis's writing instruction. The factors worked in a complementary manner to support his notion that writing in history—and in college—should foster critical thinking and should facilitate individual and social change.

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Professor Francis's academic biography, notably his experience with an influential high school teacher who helped him see that history was instrumental to literacy development and with a graduate school professor who showed him that particular historical methods were conducive to critical thinking, solidified views that became embedded in his own teaching. These mentors also modeled caring, nurturing personas, much like the personal relationships he attempted to cultivate with his own students.

Dr. Francis's disciplinary identity illuminates his writing instruction in that his assignments heavily featured the normative discursive practices of history that he identified in the field's best texts. As an author he gravitated toward content that dealt with alternative (often marginalized) perspectives, and toward a narrative-driven style—approaches that aligned with his goals that students “confront” new perspectives through their own writing.

As a parallel to his views of history, which Dr. Francis believed positioned students as agents of change, his broader educational ideology was that college should teach students to take on new perspectives, and should push students out of their “comfort zone” so they would be in a better position to learn. He prioritized the skills of critical thinking, reading, and writing even over the content of history (which he described as a vehicle for learning those skills). His writing assignments echoed his educational ideologies in that they pushed students to develop worldly and nuanced perspectives. The expectations of his department were minimal, and thus had very little influence on the way he assigned writing in his courses.

CHAPTER 5: THE CASE OF PROFESSOR ELAINE OLIVER

Dr. Elaine Oliver is an associate professor of history at EU, where she began working in 1990. Prior to that she was an instructor from 1987 to 1990 at a small, private Jesuit college in upstate New York. In 1987 she received a PhD in U.S. History from Northwestern University, in 1980 a Master of Arts degree in European History from the University of Idaho, and in 1977 a Bachelor of Arts in Religious Studies, Philosophy, and Psychology at Lindenwood College. She teaches and conducts research on social policy, women's history, and progressive politics and reform.

During the Fall 2014 semester she taught one course, a 300-level course entitled "Honors Seminar" (hereafter referred to as the "Seminar"), which she had designed and was teaching for the first time. The syllabus describes this course as a "reading seminar" for students in the History Honors Program, and as a requirement for all honors history students. Dr. Oliver told me that juniors typically take the Seminar during the first semester of the two-year program.

According to the syllabus, the purpose of the course is "three-fold." Its primary purpose was to "create a learning community that will sustain all members through the next two years of study in the History Honors Program." This learning community was defined as a space in which students must "show special respect to each other and take seriously their responsibility for sharing their ideas and insights." The second purpose was to "introduce students to a variety of ways of doing history." Through an exploration of primary sources, various theoretical standpoints, and historical research methods, the course was meant to inform the students' own decisions about "what kinds of sources, theories, and questions they might prefer to explore in their own historical scholarship." The third purpose was to "help students develop some of the skills necessary for doing

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history.” The course helped develop these skills through a number of activities and assignments, which culminated in a summative historiographical essay and an oral presentation.

Approaches to Writing Instruction

I organize the section on Professor Oliver’s approaches to writing instruction according to a straightforward description of Dr. Oliver’s writing assignments; an exploration of her goals and strategies in assigning writing; and an exploration of feedback and assessment practices.

Writing Assignments

All assignments in Professor Oliver’s seminar were written or oral, and were based on secondary sources. Students were assigned a weekly discussion post on their readings (worth 10%), a book review of one assigned text from the course (15%), an in-class essay for their midterm exam (15%), a historiographical essay (20%), and an oral presentation based on the historiography (15%). Participation accounted for the remaining 25% of the course grade.

What Professor Oliver called the “blog post” required students to respond to weekly readings. The blog posts were “very strictly guided in the beginning,” as Professor Oliver told me in an interview, but by the middle of the term she “assume[d] they’re being professionalized, socialized by that time,” and that they could “produce their own responses without that much guidance.” Posts were to include the author’s main argument and the student’s evaluation of the work, and the syllabus stated, “You may use the first person, of course.” The guidance she provided for these posts took the form of specific questions like,

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As you read the first essay for today's class meeting, try to define empiricism. What do Green and Troup argue are the limitations of empiricism as a theory of knowledge for historians? Is relativism the only alternative to an empirical theory of knowledge? What elements of the empiricists' practice do you find compelling? Blog on at least one of these questions.

Finally, students were asked to describe what they learned from each reading, and to extrapolate from their reading about the discipline as a whole, by posing any "new thoughts or questions about history."

Dr. Oliver characterized the weekly posts as "loose" and "informal;" their sole purpose was to prepare students for a more fruitful class discussion. Unlike most blogs, these "blog posts" were housed in the Discussion Forum of EU's electronic learning management system (ELMS), a password protected space only accessible to other members of the class. Discussion Forums have a pre-packaged, constraining design and are a distinctly academic venue, whereas authors have much more freedom with a blog's layout and design. Dr. Oliver's mischaracterization of the technology indicated a lack of fluency in composition technologies.

Students were asked to write "one formal book review" in the course, which Dr. Oliver characterized as a "common" and "important" genre, and a "routine obligation of professional historians." The assignment required students to review one of the four secondary source monographs assigned in the course, and stated that reviews "should not be in the first person but should conform to the standards that govern book reviews published in scholarly journals of history." In the class I observed she told students to "shoot for" the style that appears in the *American Historical Review*. Her prohibition of the first person here recalls her sanctioning of the first person in the weekly blog posts. By encouraging the first person in one assignment but proscribing it from another Dr.

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Oliver indicated that discursive conventions vary depending on the text's form and context.

The assignment description gave an overview of what each book review should contain:

- “The broad topic of the work”
- “Its major arguments”
- An idea of “what [the reader] will find in the book”
- An overview of the “primary sources and methods the author employed”
- A statement of “the value of the book”

During class, Dr. Oliver added that in the students' reviews “there's not going to be any invective,” and that “a book reviewer wants to follow the Golden Rule.” This guideline was not a disciplinary norm per se, but personal interactions and respectful relationships were values Dr. Oliver sought to affirm in her writing instruction. One student asked if more established scholars tended to be more aggressive in their critiques of other scholarship. Dr. Oliver replied that aggression happened from time to time, but that she did not “want to see it in here.” She said that she believed in civility because “it's better not only for our humanity, but also for our ideas.” Her comments echo the syllabus's invocation of a class learning community, which requests that students pay “special respect to each other” and that they “take seriously their responsibility for sharing their ideas and insights.”

The other formal writing assignment in the Seminar was a historiographical essay. Historiography is the study of how history has been studied over time. The content of history is only of secondary concern to the historiographer; the primary concern is how historians have treated the topic over time. Historiography is the history of history, so to speak. This assignment asked students to select one historical journal and then to read 20

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articles from that journal over a 40-year span. According to Professor Oliver's prompt for the assignment, students were asked to detect whether and how historical scholarship changed over time in their journal. The final essay "will make an argument about the patterns you discover in the practice of history itself."

Some of the main directions of the assignment were framed as responses to issues Dr. Oliver encountered in students' book reviews. The book review thus served as a preparation for the historiography, and as a diagnostic of students' writing abilities. The prompt stated that, "we'll want to take up [these problems] when we talk about the historiographical paper." The "problems" addressed in the prompt had to do with argument: "some of you did not report the major arguments" in the book review; structure: "each paragraph is a brick in the edifice you're building;" and clarity: "clarity is your god, your north star, your PRIME DIRECTIVE... LOVE YOUR READER" (emphasis in original).

The assignment also served to introduce students to some of the discursive norms of the discipline, which included making arguments explicit and keeping theory implicit. Keeping track of the articles' arguments was so important that Dr. Oliver asked the students to annotate the bibliography at the end of the paper with each article's major arguments. She also pointed to the discursive norm that historians do not often make their theory explicit. "Another thing to keep track of," Dr. Oliver told her students in class, "will be the explicit use of theory," even though "historians wear their theory lightly... You know, we just don't talk about it that explicitly much of the time." Following the higher order guidelines about argument, structure, and clarity, the assignment contained stylistic guidelines, which suggested that paragraphs have topic sentences and transitions,

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and that writers avoid the passive voice, write in the past tense about the past, and “avoid bulk.”

Before submitting their papers, students could “try out” and receive feedback about the main arguments of their historiographical essays through an oral presentation. Professor Oliver told me in our interview that these presentations were a “substitute” for her reading and providing feedback on rough drafts of the paper. According to the assignment prompt, each student had 8-10 minutes to present, on one of the two final class days of the semester, the “most significant findings” from their papers. Students were to include in their presentations an identification of the journal, a description of their research method, an explanation of how “historical scholarship change[d] over time,” and a presentation of “your best evidence.” After their presentations, the class would provide feedback in a kind of workshop setting. Professor Oliver described this workshop:

We’ll all sit there and think, “Hmm, did you give us evidence that actually supports that argument or is that argument clear.” And we’ll be able to ask questions and they’ll be able to say, “Ok that wasn’t what I meant actually,” or “Oh! I have a better piece of evidence, I just didn’t let you know that. Does this make more sense?”

Professor Oliver also told me she would write up her own feedback and email it to each student the day after their presentation, “So they get both written feedback and they get this discussion in class.”

In both the assignment prompt and in our interviews, Dr. Oliver placed a strong emphasis on students’ “deportment.” She wanted students “to dress up; I want them to stand at the podium; I want them to have practiced, to know themselves as a speaker.”

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She even assessed students on such behavioral details as having a dynamic tone of voice and looking the audience members in the eye.

The only other assignment in the course was an in-class midterm essay. Whereas the other assignments of the course seemed designed to professionalize students and to initiate them to the norms of the discipline, the midterm served mainly to elicit and assess students' understanding of course content. Professor Oliver published the essay prompt in the syllabus so that students would know about it from day one. The prompt for this essay reads,

In class on October 21, you will write a mid-term exam that evaluates the various kinds of sources and methods we have considered so far in the Seminar. You should analyze the value and limitations of oral history, biography, and GIS mapping techniques, newspapers, court records, and census data for reconstructing and understanding the past. You should give specific examples of the sources and methods in your essay. You may bring to class with you a list of the works we have read with accompanying notes on the sorts of sources or methods used.

In her words, the midterm was “a way of just having them synthesize what we’ve done so far” by asking students to “evaluate the various methods of doing history and the sources that historians use.”

Summary. In the Seminar students composed texts that emulated authentic professional genres (the book review, the historiography, the oral presentation), and they wrote what composition scholars call academic genres, or textual forms that are not typically produced outside of the academy. These assignments included the discussion posts in ELMS and the midterm exam (Carter, 2007). Professor Oliver used low-stakes academic genres to introduce and “socialize” students to the kinds of knowledge and methods used in history. After students acclimated to epistemological norms, they then produced texts that adhered to professional conventions. All genres of Professor Oliver’s

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course elicited historical thinking, but only the later ones took a specifically disciplinary shape. This progression from habits of thought to conventions of discourse indicated that Professor Oliver took a scaffolding approach to her students' writing development. The sequence of her assignments suggests she viewed the development of disciplinary expertise as a process of gradual acculturation.

Instructional Goals and Strategies

Professor Oliver had multiple goals for her students' writing, and her purpose for each assignment varied depending on its textual form. The assignments' formal genres determined her views about how they initiated students into the discourse of the discipline, and also how they developed students' transferable writing skills. Moreover, her teaching of writing mechanics sheds light on the ways she differentiates among modes of writing instruction, and the ways she conceives of her responsibility as a teacher of writing.

“Layered” assignment goals. I explained in the previous section that Professor Oliver required a sequence of assignments that increased in stakes and formality. This sequence was designed to achieve a number of goals associated with the discipline, and an analysis of some of the assignments shows that these goals were at times complementary and at times conflicting.

The historiographical paper, for example, had “layers of purpose” that were developmental, academic, and professional. One purpose of this essay was to prepare students to write their honors thesis, a long (approximately 90-page) work of original scholarship required of all students in the honors history program. “So,” she told her students in class, “you’ll have to do that kind of historiographical writing, and so I just

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want you to get some practice at it.” In that sense, her purpose was academic because she viewed the assignment as preparatory for a future educational milestone.

Professor Oliver also framed the historiography as a proto-professional form of writing. As the syllabus stated, “All historians have to know how to write historiographical essays.” She positioned students as scholars when she claimed that the paper would help them produce “a kind of original knowledge.” She said to me in an interview that

...they’ll actually be doing the kind of interpretive and analytical work that they’ve been seeing other people do in the works they’re reading. But ultimately the goal is to give them what they need to produce original works of history themselves.

She reiterated that expectation when I observed her discussing the guidelines for the paper with her students:

The most important reason to do the historiographical essay is because it will set you—it will insert you into the [pause]... flowing stream of your discipline, the discipline of history. You will be able to see what the trends and trajectories are, and where you now are entering into that flowing stream.

Professor Oliver gave her students ownership of the discipline by using the possessive pronoun “your,” as in “your discipline.” With the metaphor of the stream she indicated that the assignment would help to place her students within a community of other historians.

Her multiple assignment goals were also evident when Professor Oliver spoke about her purposes for the oral presentation. While her goals for the essay were professional and academic, the oral presentation had developmental goals that transcended discipline. This divergence in goals is unexpected given that the oral presentation was based directly on the historiographical essay. One of the goals,

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Professor Oliver told me, was to help fulfill the oral communication requirement of the General Education program at EU. In her words,

So all the students have to take a course over in the Communications department that requires them to give presentations and perfect them. But it seems important to me that we do that throughout the curriculum and not just in one course.

By requiring students to do an oral presentation in her class, she is addressing the university's objective that "students have basic skills in... oral communication" (from EU's General Education program web site).

Another aspect of the developmental goals for the oral presentation was to facilitate an iterative, or staged-based, writing process for her students. The oral presentation helped to accomplish that because it enabled students to practice their arguments and "make good on" the feedback in the final paper.

In addition to being a proxy for a rough draft, the presentations helped achieve a third developmental goal in that students would be able to use the public speaking experience in "every arena of life." She confirmed this sentiment in our interview when she told me that she wanted students to get practice doing oral presentations "because that will serve them forever. If they can figure that out— because they'll be doing oral presentations no matter what they do in life."

As I stated above, Dr. Oliver believed the benefits of the oral presentations were ultimately non-disciplinary. She told me,

E.O.: ...so the next time they'd have to [present] in their current program is they have to defend their honor's thesis, and they need to practice with that. But then in the larger world, they're going to be doing this all the time. And they've just got to figure out, how do I do this best?

M.C.: As historians? Or as anything?

E.O.: As anything.

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M.C.: Are you thinking of them as future historians?

E.O.: Mostly not.

M.C.: Even in an honors course?

E.O.: Yeah, mostly not. Maybe more of them than I imagine, but probably not.

Dr. Oliver demonstrated that she wanted the presentations to support students' oral and writing skills, no matter what they did in life—which would probably not be the practice of history. However, her purposes for the historiographical essay were grounded in the discipline of history. When describing the historiographical essay to students in class, in the syllabus, and in the assignment prompt, she projected onto them the professional persona of a historian. She wanted to give them practice doing the specialized work that historians do.

A final layer of instructional purpose was evident in the weekly discussion posts. Unlike her goals for the other assignments, Dr. Oliver's goals for the discussion posts were in conflict. On the one hand, she characterized the posts as a purely educational tool, unrelated to the discipline. Dr. Oliver viewed the weekly reflections as a means for students to get a handle on the material they read every week. These posts were "strictly to get them prepared for the discussions" and were ostensibly not disciplinary in nature, but were "only pedagogically motivated." As she said, "[T]hey need to know, 'What do I need to focus on here?' Because they're going to be reading 300 pages a week or something. That's a lot." These posts also served as an accountability tool in that other students would be able to view them, and "they would be more embarrassed not to do it if they know that other students are reading it—or to do a really crappy job if the other students are going to see it...."

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On the other hand, discussion posts had distinctly disciplinary requirements. Professor Oliver told me in an interview that, “I hope that the questions I’m giving them to blog on will help socialize them into the historical discipline...” The prompts asked students to develop habits of mind that were distinctly historical; these habits involved identifying arguments, analyzing the use of evidence, and learning historical theories and methods. The discussion posts also built disciplinary habits by helping students strategically read 300 pages a week—a practice that is common to history, as we will see.

Dr. Oliver hoped that the discussion posts would have a “socializing” effect, yet she also emphasized that the assignment was “*only* pedagogically motivated” (as opposed to discipline-specific). While her layered goals for writing were often complementary, Dr. Oliver’s opposing claims about the weekly discussion posts reveal that sometimes her goals could conflict.

Her multiple views may be a result of the formal differences in the assignments. The discussion post assignment was an academic genre in terms of its immediate purposes and form. It helped students to fulfill their responsibilities *as* students (i.e., to do the assigned reading, to be active participants in class, to contribute to the learning community). Unlike the historiographical essay, the discussion posts did not bear any resemblance to a professional historical genre, nor did they require the use of formal conventions, like properly formatted footnotes or use of the third-person authorial voice. The posts were housed in ELMS, an academic, non-disciplinary space. She framed the oral presentations in similarly generic terms.

Yet students were still being “socialized” into the epistemologies of the discipline by thinking, speaking, and writing about historical theories, sources, and methods. Dr.

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Oliver acknowledged the disciplinary nature of assignments when they took an overtly disciplinary *form*, but did not acknowledge their disciplinarity when they were generically academic in form, though they entailed disciplinary *thinking* and *content*.

Goals for transfer of writing skills. Professor Oliver assumed that the writing skills students developed in her class would “translate into lots of other places.” However, she did not explain which writing conventions were unique to history and which would be usable in other contexts. At times she spoke of writing in terms of its uniquely historical practices; at other times she claimed students’ literacy skills would be broadly transferable.

Alexander and Murphy (1999) write that teachers must “make thoughtful decisions about what concepts and procedures should become the centerpieces of classroom instruction” in order to facilitate transfer of skills (p. 572). However, Dr. Oliver tended to treat the “concepts and procedures” in her course as universally applicable. She told me that, though disciplinary writing has certain “peculiarities,” the overall purpose of writing—communication—outweighs those peculiarities:

So there would be peculiarities there but to the extent that we’re all—that the writing has to be clear and communicate with another human being and you have to think about who is that human being, and what would that human being know. What would I have to tell that—what would I have to add here that would allow that human being to know what is in my mind and what I want to tell her... to the extent that that’s the process you have to think about, [all writing is] the same.

She claimed that the writing students were doing in her class was useful beyond the bounds of the discipline, and that it

... translates into a lot of other places. Like if they needed to write grant proposals for non-profits, or if they needed to write just a memo in a business. Clear, cogent, compelling writing is going to be of value there. So I hope that it’s preparing them to do well in whatever they choose to do later—write legal briefs, I mean, all of them require structured, good, clear writing.

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Dr. Oliver then went on to say that, “I assume that’s transferable, but [laughing] I may be entirely wrong about that! I don’t know.” Her comments suggest that she assumed a common denominator in the writing of history from which students would be able to distill the values of clarity and cogency. The question is whether students would be able to know which writing strategies were specific to Dr. Oliver’s course, and which were applicable in other writing situations. In her document of guidelines for the historiographical paper, for example, she instructed students to “Avoid the passive voice.” Is this something that Dr. Oliver thinks all writers should do? Or just writers of history? In the discussion post assignment Dr. Oliver told students that they “may use the first person, of course.” Would students know which authorial voice was appropriate when they entered a professional context?

Professor Oliver’s assumptions about transfer emerged when she talked about the analysis of primary sources as a generalizable skill. It is

...not so different from reading the morning paper and trying to think, “Well, who wrote that and why and to what audience and with what purpose in mind.” You’ve got to ask the same kinds of questions—or of a politician speaking to you, you have to ask, “Ok so now what is your purpose here and do I believe this and what kind of evidence have you really given me for that.” It’s really the same kind of thing.

Dr. Oliver saw a correlation between the skills required to analyze a historical document, and to read the newspaper or listen to a speech critically. Yet she did not appear to model or discuss *how* students could facilitate that translation for themselves. If anything, she overtly described the purposes of students’ writing (particularly the book review and historiography) as helping to achieve disciplinary aims. Dr. Oliver’s characterization of the transferability of writing hints at the tension between what Giltrow and Valiquette

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(1994) refer to as “practical consciousness” and “discursive consciousness” (p. 48). Dr. Oliver may have had conceptions about the roles and purposes of literacy in her courses (practical consciousness), but she may not have explicitly articulated these conceptions to students (discursive consciousness).

Teaching the mechanics of writing. One of Professor Oliver’s instructional strategies was to teach writing mechanics, though she resented having to do it. She believed mechanics were separate from the discipline, and did not consider teaching them to be part of her duty as a history instructor. She claimed she only taught mechanics in some courses and not others, like the Seminar, which she said was not a “class that was about writing.” However, the Seminar’s paper guidelines showed that mechanics were a component of her writing instruction in that course, too. Her willingness to teach surface level writing issues along with higher order writing concerns extends our understanding of Dr. Oliver’s layered view of writing. Knowing how to use tools of grammar, style, and formatting, she believed, bolsters one’s argument and moreover, correctness in writing is instrumental to students’ future success. In courses she taught, like “research and writing seminars,” Dr. Oliver said,

I think I’ve got a lot more responsibility in those for the writing. So in those classes I do the hideous lecture on the comma. Hideous! Hideous! Terrible! Terrible! So I would never do a lecture on the comma in an honors seminar, or in a survey of US women’s history. That would not be appropriate in those classes. But it is appropriate in a class that’s a research and writing seminar. So it does vary, that the level of technical detail for which I have responsibility varies with the class.

When Dr. Oliver exclaimed “Hideous!” at the thought of giving a lecture on the comma, she expressed her resentment at the fact that she must talk about the comma at all, because “That’s for the English department to do, and it should have been done in 5th

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grade. Nobody in college should be learning how to use a comma!” When I asked her how she felt about teaching students to write correctly, she told me,

I resent having to do that like I can’t tell you. But, you know, I’ve been doing this a long time, and their writing sucks, and we are their teachers, and it is our job to do everything we can to try to make them better writers if they are going to survive in this world and make any difference out there. So I don’t like, I hate it, it’s not what I’m trained to do. But I think it’s my obligation to try.

Later she said,

When I first started teaching it would never have dawned on me that I should be teaching the mechanics of grammar and a topic sentence... But you know, over time you think yeah, well, doesn’t matter what it should be—this is the way it is and you’ve got to respond to that if you’re going to be a decent teacher.

Though she believed that teaching mechanics was the responsibility of the English department, she gradually came to see that teaching grammar, structure, and style made her a “decent” teacher because she was responding to her students’ developmental needs.

In spite of her claim that she did not teach mechanics in the Seminar, her handout of historiographical guidelines requested that students “Make sure every paragraph has a topic sentence,” “avoid the passive voice,” “write in the past tense about the past,” and incorporate transitional sentences into paragraphs. She may not have given the “hideous lecture on the comma” to her Seminar students, but she did give other forms of sentence-level guidance. Though she told me that the Seminar was not about writing, and that she resented teaching writing mechanics, course documents reveal that she believes both higher- and lower-order writing concerns are integral to writing in her courses. Her emphasis on style and mechanics also clarifies my discussion above that formal conventions are integral to the meaning of writing in the discipline.

Summary. Professor Oliver had multiple goals for assigning writing in her course, which ranged from students’ personal development to initiation into the discipline

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of history. Across her courses, she worked to achieve her multiple goals by teaching writing at multiple levels of complexity, from grammar to argument. Her goals for particular assignments were complementary and also at times conflicting, and Dr. Oliver indicated to me certain assumptions about the transferability of writing that she did not present to her students. Her characterization of the Seminar as not being “about” writing, taken with her claim that she did not teach mechanics in the Seminar, suggest she had a view of writing instruction that was defined by her teaching of mechanics. Because she did not give Seminar students the “hideous” lecture on the comma, she did not consider that she was *teaching* them writing *per se*, as much as she was *assigning* it. In spite of her claim that the Seminar was not “about” writing, writing was central to the course and was integral to students’ literacy and critical thinking skills.

Feedback and Assessment

Professor Oliver’s approaches to feedback reveal her view that writing is part of the process of personal development, and also her view that feedback facilitated her own continual instructional improvement. Her outlook about feedback also extends our understanding of Dr. Oliver’s perceived limitations as a writing instructor.

Overview of assessment practices. Professor Oliver provided students with preemptive written assessment criteria only for the historiographical paper and the oral presentation. She did however provide retrospective feedback on the book reviews and midterm exam essays. Her evaluation criteria for both the oral presentation and the historiographical essay were included within the same document as the assignment guidelines (cited above). All told, this document containing detailed guidelines and assessment criteria for both projects reached ten pages.

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For the oral presentation she provided an “Evaluation” form, containing a number of criteria that were followed by space for written feedback. These criteria included (but were not limited to): “Clear statement of method: how many articles have you read in what years?”, “Clear statement of argument,” “Clear statement of best evidence,” and “Department.” The department category was broken down into categories of “Poise,” “Vocal clarity,” “Vocal expressiveness,” “Posture,” and “Eye Contact.”

For the historiographical essay, Dr. Oliver provided students with what she called a “Checklist,” which contained a page and a half of 24 different rhetorical questions that students could ask themselves to ensure that criteria were being met. Some of these questions, presumably the ones that Dr. Oliver viewed as most important, were in bold:

3. Does [the essay] state a thesis with crystal clarity within the first two pages, preferably by the end of the second paragraph?

4. Is the thesis historiographical?

5. Does the essay provide adequate evidence for the thesis?

Other questions focused on essay organization (with subquestions about introductions, bodies, conclusions, topic sentences, and transitions), evidence, clarity (with subquestions about word choice and passive voice), and an annotated bibliography. One of the questions asked, “Is the writing interesting?” She elaborated on the meaning of this question with subquestions about varied sentence length, sentence structure, and whether or not the author has developed his/her “own voice.”

Professor Oliver did not hand out documented guidelines or a checklist for the book review assignment, though she did preemptively devote a portion of a class period to describing what the book review should contain, and passing out a variety of models that ranged from journalistic to scholarly. She told me in an interview and then confirmed

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in a follow-up email that for the book reviews she provided both marginal comments and general written feedback. Her approaches to assessment demonstrate that she believed there are integral relationships among sentence-level clarity, structural coherence, and soundness of argument.

Limitations in offering constructive feedback. Dr. Oliver's discussion of the particular problems she was seeing with the book reviews illuminates her broader approaches to feedback, and shows that providing meaningful feedback tested her abilities as a writing instructor. She told me that most of the problems she identified "have to do with clarity," which reiterates her emphasis on style and mechanics. She said that one young woman was "just not able to choose the right word to convey her meaning so she's writing things that I'm sure she doesn't mean to say. It has a wacky, funny quality because you think, 'Oh! [laughing] I'm sure you didn't mean that!'" After she laughed, Dr. Oliver turned serious and said, "But you know, on the other hand she's got to work this stuff out before she gets out into the world, because you could never hire her to write anything." Professor Oliver was particularly concerned because she felt helpless as to what kinds of feedback she could provide that would address this student's difficulty with word choice. Her expression of helplessness also revealed frustration at being put in the position to help her student with this writing issue, and not knowing how.

I don't even know how to help with that. That's a kind of problem I don't have the expertise to help with. I can draw her attention to it, ask her to please go to the Writing Center, say she's really got to get a handle on this. She needs probably to go get a tutor. But I—there's not too much more I can do about that particular problem.

This comment reveals Dr. Oliver's understanding of the complexity of writing instruction because she acknowledged that drawing attention to the problem was not enough. In fact,

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in our final interview at the end of the semester she noted that this student's writing "did not improve at all," to the point that Dr. Oliver "would be surprised if she makes it through the honors program." Dr. Oliver had consulted with Student Services about what to do with a student like this, and decided that, for a student with similar writing problems in the future, Dr. Oliver would require the student to visit the Writing Center: "And [Student Services] said the way to handle it is to call it a referral. To say to the student, 'I'm *referring* you to the Writing Center.'" Dr. Oliver told me that the student had worked very hard in the class, but that, "the writing was not good. Really not good. Yeah. Worried there."

Dr. Oliver's concern for her student and her frustration at not having the "expertise" to help her with her writing contributes an important insight about disciplinary instructors' perceived roles as writing teachers. Dr. Oliver had reluctantly resigned herself to teaching writing mechanics to her history students, but was occasionally confronted with a situation she did not know how to deal with. Our understanding of disciplinary writing instruction must continue to take into account that faculty's approaches to feedback can be constrained by attitudes of resentment and helplessness.

Feedback from students. Professor Oliver solicited feedback from her students to help tailor her writing instruction, and she used it as a mechanism for reflecting on the course as a whole. Her adaptability and responsiveness to students' abilities and concerns modeled a reflexive, process-oriented approach to writing. The students' writing itself provided Dr. Oliver with a kind of feedback that determined how she would approach subsequent writing assignments. The book review, for example, was meant to serve as a

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diagnostic tool to help Dr. Oliver determine how to respond to individual's writing struggles, and what kinds of guidance to give on more complex assignments. As she told me,

A couple of book reviews have come in. One of them was extremely good. I mean just, kind of like a model. The other was not so much, and so I think that the assignment did its work in that it alerted me so that I could alert her to what her writing problems are and so she can try to work on those before she does this much bigger paper that's worth a whole lot more of the grade at the end of the term.

She carried the impressions she got from the book reviews into her document of guidelines for the historiographical paper, so that students would profit from lessons learned in the first assignment. In that document she wrote, "In the book reviews, I'm seeing some problems that we'll want to take up when we talk about the historiographical paper." These "problems," as I have described above, had to do with argument, organization, and clarity.

Aside from using their writing as feedback, Professor Oliver sought feedback directly from her students as well. In my observation of the class where she discussed the historiographical essay and oral presentation, she polled the students to see how long it was taking them to read each of the articles that would be the subjects of their essays. Polling her students early on in the research phase of their historiographical essays showed she cared about whether or not the experience was manageable and realistic. Her question also demonstrated a kind of self-assessment to see if she had structured the assignment appropriately. In response to her question, one student mentioned an article that was based on archaeological research, and was taking her an especially long time to read, to which Dr. Oliver laughingly responded, "You'll get your sea legs pretty fast. And then it's going to go a lot faster than that. So, 45 minutes to an hour, you think?"

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Another way that Dr. Oliver solicited feedback from her students was to debrief the course and its writing assignments at the end of the semester. Allowing students to offer opinions aloud enabled them to hear one another's ideas, and provided Dr. Oliver with useful feedback. Some of the students' responses pertained to the historiographical essay and confirmed the value of the assignment:

I think we all agreed [that it] was really fun. They thought that was really worth doing; it was a lot of work, but they thought they had gained an enormous amount from that. And they thought they had—it was very sweet—they said things like “I think I know what it is to be a historian now,” which was very gratifying.

The student's comment about knowing “what it is to be a historian” speaks to the tensions among Dr. Oliver's goals for her writing assignments. In spite of her expectation that few, if any, of her students would go on to become historians, she was gratified and encouraged by their feedback that they had taken on the role of disciplinary expert.

That Professor Oliver devoted a class period to a debriefing session confirms the seriousness with which she approached student feedback, and seemed to advance her efforts to professionalize her students, though not in a disciplinary way. Professor Oliver's requests for student input positioned them as proto-colleagues whose ideas were valuable enough to change the class for future students. These debriefing sessions let students peek behind the curtain of teaching, so to speak:

What's great about those conversations is that they see that there's little you can do that would please everybody. And so they see that a teacher has to make decisions, and reach some people some of the time, and other people other times to get them all on board.

Summary. Professor Oliver's efforts to offer and elicit feedback reinforce her role as a deliberate, adaptable, and reflective instructor of writing. That she sometimes felt stymied in her ability to provide useful feedback, along with her resentment of

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teaching writing mechanics, shows that her strong priority for teaching literacy was at times tempered by resistance.

Conclusion: Approaches to Writing Instruction

The sequence of writing assignments in Professor Oliver's Honors Seminar led students through a process of first analyzing and critiquing various forms of historical scholarship and then producing it in their own right. The students' stage-based initiation into the discourse of the discipline explains Dr. Oliver's attitudes about teaching the knowledge and discourse of history. Namely, she understood the acquisition of knowledge as distinct from the production of knowledge—a view that shaped and constrained her approaches to instruction. By assigning “generic,” academic writing assignments (i.e., the discussion posts) initially, and formal genres of the discipline later, she demonstrated her belief that the development of historical knowledge was necessarily prior to, and separate from, the formal expression of that knowledge.

Dr. Oliver's conceptual separation of the habits of mind and the behaviors of discourse was also manifested through her claim that the Seminar was not “about” writing. Rather, she characterized the course's main purpose as an introduction to historical content—its theories, methods, and arguments. The acquisition of content knowledge took place mainly through reading, and through reflective writing (i.e., the weekly discussion posts). The summative assignment, the historiographical essay, marked a kind of graduation, or induction to the field. Having completed the requisite knowledge-building by reading model texts and writing generic genres, students were then able to become contributing members to the discourse of history.

Factors Influencing Approaches to Writing Instruction

This section explores some of the salient influences on Professor Oliver's approaches to writing instruction: her academic biography, her disciplinary identity, and educational ideology. At the end of the section I discuss how departmental and institutional norms have emerged as a fourth influence on her writing instruction.

Academic Biography

Professor Oliver characterized her training to become a historian as “fantastic,” in large part because of her influential teachers and formative writing experiences. These experiences shaped her writing instruction by establishing her dedication to teaching undergraduates, and giving her an explicit education about the craft of writing.

Influential history teacher. Dr. Oliver told me that her PhD adviser, Professor Robert Wiebe, a specialist in American social and political history, was a “wonderful” mentor. He provided Dr. Oliver a strong model of teaching as mentorship, and demonstrated the lifelong impact of a teacher's investment in students. Though Dr. Oliver did not indicate that Professor Wiebe had a direct influence on her writing instruction, she was emphatic about his overall influence on her teaching and on her conceptions of history. She told me that he had “a very light hand and let his students do pretty much whatever they wanted and then just tried to figure out how to help them. A beautiful model, I thought, of mentoring.” Dr. Oliver expanded on how his encouragement of autonomy was so meaningful to her:

He was very hands-off. So I would say he encouraged absolute autonomy and independence. And yet, through his own work and the way he led his life, he was a fabulous model and I think I did learn all kinds of—picked up all kinds of values from him.

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One thing that Dr. Oliver found particularly admirable about Professor Wiebe was that he was a “leading scholar in 20th century U.S. history,” and yet he “preferred teaching undergraduates to graduate students, and was a terrific lecturer [who] loved to hear the kind of quirky things that undergraduates would come up with.” Without any prompting from me, Dr. Oliver drew a parallel to her own self as a teacher. When she said that Professor Wiebe loved to work with undergraduates, she added,

And so do I. And I have to think it’s partly because that’s what I saw in someone I respected so much and I felt was so good at what he did. I think I must have picked some of that up from him.

Dr. Oliver’s behavior in the classroom corroborated these comments. Based on my two observations of her class, Dr. Oliver clearly enjoyed herself, and took pleasure in interacting with her students. When analyzing my field notes, I remarked on how many times I made a note that Dr. Oliver had laughed, and created levity at almost every topic. At the start of class, she asked each student to offer a comment or question about the day’s reading. She listened to each student and made notes on what they said. She nodded vigorously at their comments, and said things like “Great! We’ll come back to a lot of that,” and “*Very* interesting. Fabulous.” She echoed or paraphrased each student’s comment, as if to show that she cared about and was processing what they said.

Dr. Oliver’s respect for her students’ perspectives and backgrounds echoed Professor Wiebe’s love of students’ “quirky” contributions. His influence was epistemological as well as pedagogical in that he showed her how the subjective interpretations of individuals can contribute to the overall meaning-making of a group. An example from my observation of her class illustrates this point. One student commented that she was an anthropology major and that, perhaps as a result of her

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disciplinary perspective, she took issue with an author's use of the word "culture."

Another student responded, saying she was not an anthropology major, and did not have the same connotation of the word. Dr. Oliver responded to their viewpoints enthusiastically, and said that each student brings his or her own "personal screen" to the readings. She later reiterated this point, and said they all had to work hard to "figure out" one another's "screens" because understanding one another's contexts was the only way that they could truly communicate and learn from each other. To say that Dr. Oliver's responses to her students directly and consciously come out of her memory of Dr. Wiebe would be an inferential leap. However, it is a reasonable inference that Dr. Oliver's enthusiasm about her students' various ideas and subjective "screens" derive from a general desire to model herself on her mentor.

Influential composition teacher. An instructor from Dr. Oliver's undergraduate career was influential on her writing development, and consequently, on her writing instruction. As a self-directed learner, she decided that, since she had not taken a college writing class, she would ask a composition instructor to read one of her papers. Dr. Oliver had written the paper in a theology course, and had gotten an A on it. To her surprise, the composition instructor read the paper and "he said he would have given [it] a C—you know, on the writing, until he came to the last paragraph where I kind of pulled it together so he might have given me a B-." In spite of the shock it gave her, this instructor's advice helped her conceive of writing in a whole new way:

... You know, I didn't know anything about the passive voice, and the structure of this thing was just nutty, and so he—Oh my gosh!—he just took me to task, and it was such a shock to me, but it really helped. He basically was the first person—gosh it's amazing I could make it this long, but I did—without somebody saying, "You know, writing's a craft. And there are certain rules." I didn't think of writing as building something. I thought of it as this kind of outpouring of self-

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expression, which of course it can be. But I didn't—it's not what professional writers do. I didn't think of it as building... an argument, or building something. A structure.

With this instructor's "wake up call," Dr. Oliver became a "self-conscious kind of writer." She read Strunk and White's *Elements of Style* (1959) on his recommendation, and said that it was still a "go-to" book that she re-read every few years. "So anyway," she told me, her experience with that instructor was "the biggie. For me that was a watershed. Everything else has been building on that."

This instructor taught Professor Oliver that academic writing is a "craft," that it has "rules," and "structure," and an "argument." These beliefs about writing echoed in her guidance of her students' writing. Modeling the rigorous structure she wanted her students to follow in their own writing, she laid out her guidelines for the historiographical essay in a detailed Roman numeral outline. This document told students:

...you want to make sure you organize your essay by point. You are not just spilling out discreet bits of information: you are developing a set of arguments yourself, and you must build by paragraph, with each paragraph representing a single point you'd like to make on the way to the next paragraph. Each paragraph is a brick in the edifice you're building. If you have no point in mind, you cannot build a solid structure.

Summary. Dr. Oliver's teachers each had a different effect on her, and shaped her compassionate and structured approach. Professor Wiebe solidified Dr. Oliver's dedication to college teaching by demonstrating that teaching is an important, and respectable, component of one's scholarly identity. Her writing instructor shifted her understanding of writing from that of self-expression to that of logically structured argument. She characterized his influence as a "watershed," and his influence lived on in her own teaching.

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Disciplinary Identity

Understanding Professor Oliver's identity as a practicing historian helps us to determine how that identity influences her writing instruction. I begin this section on disciplinary identity with a review of Dr. Oliver's characterizations of history's valued discursive genres and practices, one of which is the practice of reading. I then discuss her views of history as a means to social justice. I conclude with a discussion of Dr. Oliver's own writing identity, and explore the ways that her relationships to discourse shape her writing instruction.

Disciplinary genres and knowledge values. Professor Oliver told me that book-length monographs are considered the most valuable form of scholarship in history. These books are innovatively and thoroughly researched, they make new or "important" arguments, they are engagingly written, and they are "complex," "creative," and "interesting." She particularly valued books whose arguments, though specific to one context, have broader significance. The most meaningful texts, she suggested, were both technically skilled and socially and culturally insightful. I had asked Professor Oliver to name a couple of her favorite texts from her field so I could get a sense of how textual norms determined her relationship to the discipline. Her discursive values help to explain her dual emphases on sound argument and technical rigor in her students' writing.

One book that she thought was an exemplar of historical discourse was William Cronon's *Nature's Metropolis*. "I just love it!" she exclaimed in our interview. The book is an environmental and business history of the city of Chicago, and is a scholarly work, but is "clear" and accessible to a "popular audience." She thought it was exceptional because while it makes an argument about a particular time and place, its ultimate conclusions have a wider impact. Through its exhaustive research, the book introduced

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new ideas, but what made it a standard-bearer was that its methodologies and arguments also introduced new ways of thinking:

It's a major way of thinking about the world, not just about the past, or just about Chicago in the 19th century. It's a way of understanding us and our relation to everything around us. So it's a very profound book..."

Dr. Oliver explained that books are the dominant textual form in history because only books can contain the amount of research "necessary to make a compelling case" for a historical argument. As a result, the book is the mark of professional success for a historian. She told me,

Books. Yeah, books are the main thing. We all publish articles too—the way you usually make your mark on the field is through a book—yeah, the book is the biggie. There have been shorter pieces that have constituted breakthroughs in the field, there are a few of those. But overwhelmingly we would say, "This was the book that blah blah blah... This book took us in this direction." So books, that's our biggie.

The research methodology most historians use is archival research. In her words,

...we go to archives and look at manuscript collections and the collections of—the documents that are produced by institutions and organizations. So to do archival research in the US is hard enough, because you're going all over the place to find tidbits that people have left you—these fragments they leave you of evidence about the past—that's bad enough. It takes forever. So we also do work in newspapers in the past and magazines and other things too—things that are published. But the... gold standard is archival research.

To qualify as an "important" book in history, it must "produce... new information" but even more important, it must issue "a new interpretation of some big question or issue in the past." The "interpretive intervention" of the evidence is "the key" to an exemplary monograph in history.

The Seminar immersed students in the genre by assigning roughly a book a week for reading. Though students did not produce book-length works themselves, interpretation and argument formed the backbone of their writing in the Seminar. Book

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reviews enabled students to scrutinize the structure of the genre. Historiography makes up a part of any original scholarship in the field; by writing one in this course, students got first-hand experience with this essential element of historical research. Professor Oliver herself told me that in history one moves from novice to expert in stages. First students must “learn to engage secondary works,” and then they “learn to produce it.” Thus, while the assignments for her course did not ask students to replicate the normative genres in the field, they gave students the requisite experience for doing so by exposing them to historical theories and methodologies.

Reading in History. Reading is an essential aspect of literacy in history. Because Dr. Oliver believed the development of expertise in history is a stage-based process where novices must learn to “engage” scholarship before they can “produce” it, she approached reading instruction with as much intensity as writing instruction, especially in the beginning of the semester. Reading provided scaffolding for students’ writing in the sense that historical texts were first the subjects of students’ writing, as with the discussion posts and book review, and then models upon which students’ writing was based, as with the book review and historiographical essay.

One of the Seminar’s early class topics, according to the syllabus, was “How to read a long and detailed book of history.” When I asked Dr. Oliver about it, she said she told students

...that they’re not trying to learn every piece of information that’s in the book. They’re trying to get what the argument of the book is. So to read the introduction really, really carefully, and the conclusion really, really carefully and then, breeze through the middle—is the best way to read a long and detailed book... It’d be nice if you could read every page as carefully as you read the introduction, but you can’t. None of us has time for that.

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I replied that I had heard other historians talk about “gutting” books, and Dr. Oliver nodded and smiled knowingly: “Yes. Yes, to gut a book. That’s exactly what this is. Guttin’ a book.” I asked, “So it’s not frowned on by teachers?” And she replied, “You *have* to have this skill. As an historian, you have to.” She went on:

I know in some places, some disciplines, big old fat books are not what you have to read all the time. There are articles and you can actually read them carefully, and you must. In history, you’re expected to read hundreds and hundreds and hundreds of books. When you do your comps, your comps reading list in history is like three- to five hundred books. I mean there’s no way that you could read every page carefully.

The statement in the syllabus, along with Dr. Oliver’s commentary about it demonstrates that one of the ramifications of working in a discipline that is populated by such long texts is that reading is a special skill, and a significant component of historical literacy. She framed the skill as one of the first steps in the process of becoming a historian.

If reading is one of the first steps in developing historical expertise, writing comes next. The sequential nature of skills development in history has implications for Dr. Oliver’s writing instruction, particularly in the Seminar. She indicated that the course marked a point in students’ development where they were learning to “engage secondary works,” not to produce them:

So the purpose of the course is not so much to teach them writing as it is to introduce them to the field and give them a sense of the questions that they could ask once they do get to the point of developing their own, and designing their own projects. To give them a sense of the kinds of methods that they could use, the sorts of primary sources that are available to them, how they fit their own work into conversation with other historians. That kind of stuff—to teach them to read history as a professional historian.

If reading and writing are to be seen as skills developed chronologically, as Professor Oliver indicates that they are, comments like these make more sense: that, “the course is not so much to teach them writing” and “this is not a class that was about writing. You

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know, this was about history itself, with its content.” Dr. Oliver’s comments about reading show that, though writing is present in the Seminar, it is not the main emphasis.

The writing comes *out of* a rigorous reading-based curriculum.

History as a means for social justice. Dr. Oliver considered that one of the main functions of historical knowledge and discourse was to enable people to contribute to social justice. She had been a social worker prior to graduate school and had seen “incredible suffering” in that job. She decided that the

... way to figure out a response to what I saw as this outrageous suffering was to look at history and see how we’d gotten to that point materially, so that we might be able to figure out how we might get out of it.

Because she believed that “there are political consequences of everything that we teach,” she portrayed the discipline to her students as a means for achieving social justice. She believed history especially oriented students to politics and reform in a way that empowered them to make change:

I mean one of the things that is so gratifying about teaching women’s history and labor history and that kind of thing is that students learn how social change happens, and become often committed to joining that set of campaigns. So social justice becomes important to them, or if it already is, they figure out ways they’d like to enter the movements themselves. And, you know, people become feminists who don’t ever think they’re going to become feminists and—not just because you’re asking them to do that, but just by learning about, you know, what have women done over time, or what has the labor movement done over time. They think, “Oh, well if that’s what it’s about, well I would want to be a part of that.” So yeah, I consider doing history to be a part of entering into the movement for social justice.

Texts and discourse were a primary tool for effecting change, as Dr. Oliver illustrated. Her own book had recently come out and was facilitating a political alliance between two organizations, which was thrilling to Dr. Oliver, and was a major goal of her work as a historian:

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E.O.: [The book] does seem to be making the points in the outside world that I wanted it to make. And the important piece to me so far is that it has already created a political alliance between the National Consumers League and the United Mineworkers of America—a consumer’s organization and a worker’s organization—a political alliance between them because [the subject of the book] was important to both organizations. And they have found this common history.

M.C.: Oh... Was that a goal of yours?

E.O.: I could never have hoped for such a thing... So that this has happened makes me so happy, I could just cash in my chips and go home. I mean, not really. But if it just otherwise drops like lead, it’s fine with me because it’s already done more than I could ever have hoped.

M.C.: So is part of your goal as an author to accomplish these political hopes?

E.O.: Oh yeah.

I did not witness Dr. Oliver offering her Seminar students suggestions for effecting political or social change through their writing. She indicated that these opportunities arose more when she taught courses like women’s history and labor history. Nonetheless, her espoused view was that the discipline as a whole was a means to social justice.

Writing identity. Professor Oliver’s identity as a writer was deeply connected with her role as a teacher. She had empathy and insight about the lengthy process of writing in history, and she used her own publications to motivate and inspire her students. This connection between her writing and teaching was especially clear because her latest book was published during the semester I collected data, and she used the book as a tool in her writing instruction. Dr. Oliver was “exuberant” that the book, a 440-page monograph about a progressive political reformer in the United States, was finally coming out. It had been an intensive, ten-year project, as she told me most book projects

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in history tend to be. When I asked her if a decade was the typical cycle for producing a book, she said:

E.O.: Yeah. It takes forever to do historical research. You have to really like it.

M.C.: And be patient!

E.O.: Yeah! You have to really like to dig in, sink deep, and stay there [laughs] for a long time! So gratifying.

She also said that for historians it is necessary to always have a big project, usually a book, in the works. So although her next project was just a “gleam in my eye at this point,” she was thinking about doing “a study of women in the Great Society government in the 1960s, and there are a lot of different ways I could go with that and a lot of different questions I could ask.” She said she was toying with different ideas, but

I’m just going to let myself take my time on that. I’m going to explore, maybe during the summer I’ll have time to do that after I finish this other article. So we’ll see, so yeah, stuff’s in the works.

Texts in history are built slowly, and, likely because of her first-hand experience with that, Dr. Oliver was cognizant of the amount of time students would need to complete their historiographies. She held the class to discuss the paper guidelines three weeks before the paper was due (this was fairly far in advance, given the time constraints of the semester), because she wanted to ensure that students were giving themselves plenty of time to “dig in” and reflect on the articles they would be writing about.

Dr. Oliver capitalized on the occasion of her book’s publication to inspire her students in their writing. On the class day when she discussed the guidelines for the historiographical essay and the oral presentation, she spent the first half of the class discussing those assignments and then spent the second half of the class presenting her book and describing her process writing it. The class had a potluck that day to celebrate

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the completion of the semester, the students' accomplishing the intensive historiographical essays, and Dr. Oliver's book release. She told me that she held two discussions—one about the historiography assignment, the other about her book—back to back on purpose. She wanted to show students what kind of work could potentially result from the kinds of historical research the students were just starting to learn to do. As such, she exhibited her writing identity as a model for her students.

Summary. Dr. Oliver revealed her disciplinary identity through her praise of innovative arguments and methodologies as they are displayed in historical monographs, and further clarified the role of discourse in history by emphasizing reading as an important aspect of a historian's literacy. She attempted to inculcate these values in her students through progressively intensive reading and writing assignments, which revealed her stage-based approach to teaching literacy in the discipline. As students worked toward a level of expertise that entitled them to produce historical scholarship in their own right, Dr. Oliver showcased her role as an author and as an activist to demonstrate and celebrate that historical scholarship could lead to meaningful change in society.

Educational Ideology

Here I array the data that illustrate Professor Oliver's educational ideologies, or beliefs about the purposes of education. As I have previously proposed, a professor's educational ideology is a salient factor in determining approaches to writing instruction because she may design assignments and offer guidance that reflect her philosophy. The data revealed that Professor Oliver believed in education as a means to personal and civic development, and her writing instruction aimed to facilitate that preparation.

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Intellectual and personal development. Professor Oliver viewed an undergraduate education as a means to intellectual and personal development, and reading and writing skills were a key component of that development. Though she taught the specialized knowledge of history through writing, Dr. Oliver's espoused view was that teaching writing was ultimately a means for supporting her students' growth as human beings.

When I asked her directly about her views of the purposes of an undergraduate education, she explained her views that reading and writing lead to clear, structured thinking. She told me,

Well, I think that developing critical reading skills, and the ability to write clearly, and to speak clearly, I think those are just fundamental. So to be an engaged thinker—you're looking at what people write, and what they say, and thinking, "Where'd they get that idea? Where is the evidence for that?" That's number one. And then the ability to communicate their own ideas clearly both in writing and in speaking.

Later in that interview she discussed an experience that articulated her ethos even more clearly. This experience revealed her philosophy as a teacher, and her broader attitudes about knowledge. The day I observed the Seminar, the class was discussing the classic monograph, *The Cheese and the Worms*, a cultural history that examines the philosophical worldview of a 16th century miller, Menocchio, and extrapolates from Menocchio's views some broader arguments about Inquisition-era Italy. After they had discussed the text, Dr. Oliver told an anecdote about herself. She told students that as a graduate student instructor, she became increasingly frustrated because she felt that her lectures were having no effect on her students, even though she felt they were "clear as a bell." One day the ideas of the book prompted her to an epiphany about her teaching. Like the main character, Menocchio (whose eccentric views got him burned at the stake),

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Dr. Oliver realized that *everyone's* worldview is uniquely situated. Students interpreted her lectures through their own “filters” and she realized how important it was, as a teacher, to understand that students interpret what they learn based on their own backgrounds and subjectivities. During my observation she told the students that as a result of that epiphany, “I absolutely cherish this book... It’s been really valuable to me pedagogically.”

During a later interview I asked Dr. Oliver why she shared that anecdote with her students. She explained that she told that story, first, for pedagogical reasons. She wanted them to “feel as safe as they can possibly feel.” She felt that students would never be able to “say what they really think about what they’ve read” if they did not feel comfortable in class. Telling a story that was “more personal than I normally share” enabled Professor Oliver to model the personal nature of learning, and the occasional benefits of self-disclosure when learning in community. She also revealed her subjectivist epistemology by explaining that Menocchio’s worldview was shaped by his own time and place and character. One’s own subjectivity is integral to learning. She wanted her students

...to feel like they could say, “Well, this doesn’t have that much to do with, you know, our goals right here, but this happened to me when I read this and I think it was really interesting and I wanted to tell you all.” I’d like them to be able to do that.

By sharing this anecdote Dr. Oliver modeled a culture of learning in her class. Class discussions and the weekly discussion posts (which elicited opinions and impressions, in part, by encouraging the use of the first person) helped implement her views. Though the more formal writing assignments of the course did not explicitly encourage subjective views, she lay the foundation that ideas and arguments, though they are supported by evidence, are grounded in human, individual perspectives. Dr. Oliver thus demonstrated

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that her goal of cultivating students' intellectual development was an intersubjective process.

Preparing citizens. As an extension of her views that college ought to serve as a means for personal development, Professor Oliver believed college should help students become contributing members of society. She was emphatic about the political nature of knowledge and learning, and she explained that literacy was an essential tool for making social change. While the content and the writing assignments of the Seminar did not explicitly reflect those values, they were evident in our discussions and in her allusions to other courses. When I asked if Professor Oliver thought of her students as future historians, or more broadly, as citizens of the world, she explained that she took a civic approach to education over a professionalizing approach. She added that writing skills were imperative part of that education:

Yeah, citizens of the world is a lot closer. For undergrads. ...I feel like I'm just trying to give them some of the skills they're going to need to thrive in whatever. And in writing you need to thrive no matter what. It's—I don't need to tell you this—it's just crucial to thriving in the world and making a mark on the world and getting your point across anywhere. Yeah, so I'm not thinking about training historians particularly.

In spite of her claims about the role of literacy in effecting social change, the writing assignments in the Seminar did not seem to reflect those claims. In fact, as professional genres, the book review and historiography assignment seemed better suited to fulfilling a “production” ideology, which “promotes a view of higher education... as a point of entry into the labour [sic] market” Fanghanel, 2012, p. 7). Yet as we have seen, Professor Oliver did not report that she was preparing students for the profession of history, and she rarely referred to students' professional futures at all. Still, the individual writing assignments of the Seminar did not reflect the civic ideologies she espoused

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during our interviews. However, she may have developed her students' civic identities in other ways besides writing assignments. As we saw with her Menocchio anecdote, Dr. Oliver wanted to make the classroom a safe space for sharing opinions, political or otherwise. Moreover, as the passage above indicates, some of the other courses she taught in her areas of expertise—women's history and labor history—were a clearer means for a civic education than the Seminar was. As she noted, these courses enabled students to “figure out ways they'd like to enter the movements themselves.” Though Dr. Oliver's writing instruction in the Seminar did not overtly reflect her civic ideologies, those views were evident in her general discussions of the discipline.

Summary. Professor Oliver espoused a humanistic view of higher education whose main priorities were intellectual and civic development. As she framed it, reading and writing skills were instrumental to attaining those views. These views clarify some of the tensions regarding disciplinary and generic knowledge, in that she considered critical literacy and openness to multiple perspectives to be transcendent of the discipline. Yet these values were grounded within a particular epistemological framework that was distinctly disciplinary. She was able to explicitly acknowledge, however, that the discipline of history was a launching point for students' civic development.

Departmental and Institutional Norms

Institutional expectations both supported and constrained Professor Oliver's writing instruction. Dr. Oliver cited some of the educational values promoted by EU as supporting her pedagogical approaches, though the institutional tenets that she drew on did not extend as much as they corroborated her existing beliefs. In another regard, institutional expectations posed a great constraint, or the potential for a great constraint,

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on Dr. Oliver's teaching. Her concern over these expectations demonstrates the extent to which her teaching practices are tied up with her institutional context.

Institutional norms as corroboration for beliefs. Dr. Oliver cited the institutional values of EU at a couple different points in our interviews, and indicated that her priority for developing students' communication skills aligned with EU's stated values. How or whether those institutional tenets directly shaped her teaching is uncertain, but she did appear to draw on them as confirmation of the appropriateness of her practices. To justify her approach to history as a means for civic engagement and social justice, she cited institutional tenets about equality for all social groups. This citation has implications for her teaching of writing in that she viewed literacy as an important tool for civic engagement. In her words,

EU actually is explicitly committed to social justice—you know, creating greater equality for minority groups, for women, for LGBT people. Those are explicit commitments of Eastern University... And so I don't think that what I do is in anyway a betrayal of the commitments of the university of which I'm a part.

She made a more direct link to writing instruction when she explained that the general education oral communication requirement substantiated her decision to assign an oral presentation in the Seminar. She told me,

As you probably know the General Education program at EU has as one of its goals that students learn to present orally... So all the students have to take a course over in the Communications department that requires them to give presentations and perfect them. But it seems important to me that we do that throughout the curriculum and not just in one course. So part of the hope here is that I'm just giving them practice in something that they have gotten a basis for elsewhere, so they just learn effective techniques for presenting their work, or their ideas. So that's one goal of this.

Her efforts to increase students' experience with oral presentations confirm her educational philosophy that personal development can be achieved through literacy.

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Institutional constraints. For the most part, Dr. Oliver felt “very free” in her teaching. Aside from a couple of written assignments in the major’s “required research seminars,” how and what history faculty teach is “really up to us.” However, in her capacity as a faculty representative on a board that “oversee[s] the history and social science Gen. Ed. requirement,” Dr. Oliver noted the possibility that the General Education program may soon “pressure” faculty “to do particular kinds of assignments” in an effort to create measurable evidence that general education learning outcomes were being met.

Though she was “not positive” what the outcome of that deliberation would be, Dr. Oliver was vehemently opposed to the possibility on the grounds that it would stifle instructors’ creativity and ingenuity in developing their own assignments. As she put it, “different people will have different creative ideas that are appropriate to their own field, and their own particular course, and I just wouldn’t want anybody’s imagination constrained by this centralized entity.” She characterized this level of bureaucracy as “preposterous,” and along with a number of other colleagues on the board, was resisting the administration’s initiative to standardize assignments.

Summary. Though these teaching requirements had not been put in place yet, her resistance to them illuminates her attitudes about teaching. As we saw above, she considered centrally designated learning outcomes (like oral communications) to be acceptable, and even drew on them as affirmation of her curricular decisions. However, she viewed assignment design as a personal, “creative” endeavor, and she believed top-down requirements would stifle faculty’s freedom to experiment in the classroom. Her

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views about the highly personal nature of teaching align with her views about the subjective, personal nature of learning.

Summary of Key Findings

This section summarizes the key findings that address the study's first research question about participants' approaches to writing instruction, and then explains how the conceptual framework's factors and the emergent factor shape those approaches.

Approaches to Writing Instruction

A primary finding from the case of Professor Oliver is that she used writing and literacy to initiate, or "socialize," her students to the field of history, and that disciplinary initiation was instrumental for cultivating critical literacies and civic identities that students would use beyond the bounds of history. She assumed that disciplinary skills would be broadly transferable to other areas of her students' lives. She advanced her goals by organizing her class as a "learning community," and modeling a subjectivist and political orientation to knowledge and discourse. She believed students' writing should be characterized by "civility" because civil discourse led to better ideas and a better world. Because the course she taught (a reading seminar for honors history majors) was meant to introduce students to historical content and methods, she assigned intensive reading and written assignments that took the form of both academic and disciplinary genres. Still, she continually espoused the view that critical literacy was an essential outcome for all students, irrespective of discipline. She emphasized that, even in a course that taught highly specialized knowledge, the discipline ultimately served to cultivate students' literacies as a means for civic participation.

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A second finding from this case is that Professor Oliver's writing instruction emphasized argument by way of clear structure and mechanics. Her use of textual models, intensive guidance, and diagnostic feedback demonstrated her view that writing was a process through which students could display clear historical thinking through clear writing. Despite her emphasis on form and clarity, she sometimes felt frustrated and unqualified to teach writing, and she seemed at times to subscribe to a model of writing instruction where writing is the "province of English teachers" (Carter, 2007, p. 386). However, her ambivalence about her qualifications for teaching the "rules" of writing only corroborate her value of structure and mechanics as indispensable to strong arguments.

Factors that Influence Writing Instruction

The framework's three main factors have an important influence on Dr. Oliver's approaches to teaching and writing. Dr. Oliver's academic biography revealed, for example, that each of her two transformative mentors informed her respective approaches to writing instruction. Her PhD adviser was a nurturing and liberating educator who taught Dr. Oliver about the possibilities for history as a means to social engagement in the broader world. Her other "watershed" experience was with a writing instructor who taught her about the power of writing structure and rules for building an argument. Her own reading and writing practices represent a union of her mentors' influences: the best historical texts make important, socially significant arguments (and can even effect political progress, as her book did), but they can only do so through an assiduously researched, well-structured presentation of evidence.

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Dr. Oliver had a strong identity as a practitioner of history, but her views about the ultimate purposes of history served to reinforce her generalist views about critical literacy and social change. Though her class was situated within the discipline, and though she held up her own historical writing as a model for students, she did not envision the discipline itself as especially meaningful to her students' futures. Rather, as her educational ideology demonstrated, she valued college for its contributions to students' broad personal and literacy development. She assumed that honing students' historical skills in college would enable them to apply those skills in universal contexts. Though she expressed concern that EU's central administration might soon impose requirements about what particular assignments faculty needed to use, the department and institution did not otherwise influence her teaching of writing.

CHAPTER 6: THE CASE OF INSTRUCTOR JASON CAPELLO

Jason Capello has been an instructor of engineering at EU since 2006. A graduate of EU, he earned his Bachelor of Science degree in Aerospace Engineering in 2005. He spent the 2005/2006 academic year in EU's MS/PhD program in Aerospace Engineering, but withdrew in good standing after one year. He is currently working toward a PhD in Science Education at EU, and plans to graduate in 2018.

During the Fall 2014 semester Mr. Capello taught two sections of an introductory engineering design course for first-year students. A 100-level course, "Team Design for Engineers" (hereafter referred to as "Team Design") was a part of the Axis Program, whose mission was to provide "experiential learning" courses for first- and second-year engineering majors. Team Design was the only course in the school of engineering required of all students, irrespective of their major specialization (electrical, civil, mechanical, etc.). The Axis Program offered 16 sections of the course in the Fall, 2014 semester; Mr. Capello taught two of them, and ten other instructors taught the remaining 14 sections. All course documents like the syllabus and assignment prompts were standardized. Therefore, although Mr. Capello was involved in the design of the course, he is not the sole author of course documents.

The goal of the course, according to the syllabus, was to answer "one very basic question: What does it mean to be an engineer?" The course addressed that question by emphasizing "six fundamental engineering topics," which include:

1. Teamwork and group dynamics
2. Communication skills – oral, written, graphical
3. Computer applications
4. Scientific and technical principles
5. Analysis of experimental data
6. Ethics

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According to the syllabus, the first half of the semester was “grounded in engineering content” and the second half was “lab-based.” That is, students attended classes for the first six weeks of the semester and learned a variety of engineering principles, ranging from overviews of various engineering specializations (electronics, mechanics, etc.), to drawing and communicating in the discipline. The course operated on a “flipped model,” where students watched a one-hour “video lecture” on their own time and took online quizzes to test their comprehension. Class time was devoted to “lectures, demonstrations, team meetings, and team building activities.”

After six weeks students no longer met for lecture, but used class sessions to complete a team-based project. For that project, teams of eight to ten students designed and assembled a fully operable over sand vehicle (OSV) that had one of four missions: water sampling, metal collection, terrain mapping, or vent detection. Students moved through the design, assembly, and evaluation process by completing a sequence of nine assignments, called “Milestones,” which included two extensive technical reports and two oral presentations. Fifty percent of each student’s course grade was based on these team-composed milestone assignments. The other half of the course grade was based on individual students’ participation, quizzes, and homework assignments. The course assignments with written elements and Mr. Capello’s approaches to teaching them are discussed at greater length below.

Approaches to Writing Instruction

I begin this section with a characterization of the writing assignments in Team Design. I follow that with an analysis of Mr. Capello's goals and strategies for teaching writing, and finally, describe his feedback and assessment practices.

Writing Assignments

Mr. Capello assigned a number of different writing assignments and presentations in Team Design, so the initial subdivisions of this section account for each category of written assignment. To produce these texts, students needed to learn a number of different discipline-specific "languages" and activities, and these aspects of the course assignments make up the subsequent subdivisions.

Technical reports. Mr. Capello called Team Design's two main writing assignments "technical design reports." The Preliminary Design Report (PDR), was due halfway through the semester when teams were planning their OSV projects. The Final Design Report (FDR), was due at the end of the semester. At approximately 25 pages in length, each of these reports was meant to formally and systematically document each team's OSV project. As Mr. Capello told me in an interview, the PDR and FDR resembled a professional technical report that students might one day produce in industry. Mr. Capello graded each report on technical content and adherence to specifications (60% for the PDR and 70% for the FDR), clarity and narrative quality (30% for the PDR and 20% for the FDR), and mechanical correctness, "formatting, and graphical uniformity" (10% for both reports).

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Both reports had to be structured in very particular ways and had detailed specifications, including a cover page, table of contents, executive summary, design details and shortcomings, design drawings, and construction details. As Mr. Capello told me, the required components were “very well laid out section by section, item by item.” The PDR documented the project while students were in the project planning stages; teams described the OSV design in terms of estimates, projections, and anticipations. Due at the end of the semester, the FDR reported on the project retrospectively, after the OSV had been built. This report was a follow-up to the PDR, in that students described how their design details changed since the first report, how the OSV performed, the errors they made, and the lessons they learned.

The required sections for both reports were very similar, except that “Preliminary Design Details” became “Final Design Details.” Mr. Capello told me the first report is “usually poor in quality” so the final report offers students an opportunity to improve, get a “second crack at the executive summary,” and “write a better introduction.”

The bulk of each report consisted of the design details section, which as Mr. Capello told me, contained sophisticated technical content about the mechanical aspects of the OSV. As he explained, “So this gets into the structure and the propulsion system, and the mission, and the electronics... you know, they really need to essentially perform some level of technical writing.” While the report contained technical content, the assignment prompt also encouraged students to develop a coherent narrative about the design and assembly process. Team Design instructors had added a section called “Framing” to the assignment prompt, which asked students to discuss not just results and

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conclusions, but the decision-making processes behind those choices. That section of the prompt reads:

Write the report so it makes sense of the experiences of your team, not simply for filling in a milestone requirement. What were the specific design decisions and how were the design decisions made? What are the most tentative aspects of your design, which aspects are you relatively sure of? The sections mentioned below are designed to help you organize your thoughts. Imagine the audience is another engineering student who is unfamiliar with this project.

Under the subheading, “Sections,” the prompt lists, over the course of two pages, exactly which sections were required, and what each section should contain. This section also states that “Originality is encouraged,” though what “originality” means is unclear, given the rigid structure of the report.

Oral presentations. Over the course of the semester, teams gave three oral presentations on their projects. As Mr. Capello told his students in a class that I observed, the oral presentations were designed to give students opportunities to practice their oral presentation skills, and to explore their technical insights in an increasingly formal environment. The first presentation, called the Project Development Plan Consultation, was a 30-60 minute meeting each team set up with Mr. Capello and his teaching fellow. During that meeting teams gave an informal presentation of their project, which Mr. Capello characterized as “more of a two-way discussion.” During this meeting, he was able to give teams immediate feedback about how they could improve their approaches. As he told me,

So if there were things that I didn’t think were being presented in an effective manner, it was a chance for me to interject. If there was [sic] technical details, or a sort of loss of clarity in what they were showing, it was a chance for us to try to come to an understanding of what was happening.

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The next presentation, called the Preliminary Design Presentation, preceded the first technical report. Teams had ten minutes to present to their classmates, Mr. Capello, his teaching fellow, and two external faculty reviewers. Mr. Capello used these external evaluators as an inducement for students to think about what sets of expertise different audience members might bring to the setting, and how teams could anticipate and respond to their backgrounds. He told students that because one of the faculty in attendance was an electrical engineering professor, teams would want to make sure the electrical aspects of their presentations were up to par. Conversely, because another external reviewer, the dean the school of engineering in this case, would be unlikely to know all the details of the assignment requirements, students would need to be very clear about the nature and purpose of each segment of their presentation.

The Final Design Presentation preceded the FDR. In this presentation students provided

a coherent narrative that highlights the key features of your OSV design in sufficient detail so that someone with a technical background can assess the performance of your design. The presentation should reflect on the design experience and provide narrative for why your OSV prototype either succeeded or failed to meet your design vision.

Non-linguistic genres. Students had to learn a number of other modes of communication for their reports in addition to prose-based technical writing. An overview of these “languages” gives a sense of how complex learning technical communication can be. As Mr. Capello told his students on one of the days that I observed his class, drawings and images are a “technical language used by engineers to communicate with one another.” They are an essential form of communication in engineering, he said, because an engineer cannot ask a machinist to fabricate a part based

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on verbal or written description alone. Students needed to learn specialized modes of drawing, such as computer-aided design (CAD) and wiring schematics. As Mr. Capello told his students during my observation, “You guys control how and what you show.” He told them that if they could put even part of an image, or a sketch, into their report or onto a slide then they should do so to enhance clarity.

Another “language” used in engineering reports is mathematics. To design their vehicle, students needed to determine which components achieved the team’s project goals (like what size motor would be needed to power the vehicle based on wheel size and surface resistance). Mathematical calculations helped to inform those design decisions.

Students used various tools to communicate processes. Flowcharts demonstrate if-then processes through images. “Pseudocode” uses semi-structured English formatted like computer code to demonstrate a process. Gantt Charts are bar charts used to lay out a project schedule. A Bill of Materials (BoM) is a standard engineering genre that lists the parts needed for the project, and includes the manufacturer, manufacturer’s parts number, quantity, and price for each component. Technical writers commonly use these genres because they succinctly communicate all the processes and details of a complex project.

Teamwork. Because teamwork is inextricably tied up in the demands of the profession, Mr. Capello taught his students about it in a number of ways. He told me, “a lot of engineering reports get written” on teams. “It’s rare that you’re going to write a couple hundred page report on something that only you worked on, you know, only you are contributing to.” He added, to get “high quality work done, it’s important to figure out what are the strengths of the team, and make use of them.”

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When he discussed the project with his class, his instruction included advice on how to run team meetings: they should schedule as few meetings as possible, begin and end on time, prepare and distribute an agenda in advance, record and distribute meeting minutes, complete action items on time, and not use meetings as work time. He made overt reference to industry when discussing the importance of well-used meeting time; he said that the cost of engineers is so high that wasted meeting time is wasted money. The genre of the team meeting, Mr. Capello recognized, was an integral element of engineering communication.

Due in part to the necessity to work in teams and remain organized, Mr. Capello emphasized the importance of systematically displaying process in technical writing. Again, he referred to industry when he told his students, “In a real company, milestones are taken very seriously.” The very name of the assignments, “Milestones,” alludes to the value of process. He showed students how to create a Gantt Chart, a diagram professional engineers use to lay out the various action items and deadlines of a project. For both reports he required students to state which elements of the report they had contributed to in the Approvals Section, like who produced drawings or calculations, who completed formatting, and who wrote certain sections. The Approvals drew students’ attention to process and accountability— the whole report gets completed one section at a time, and each student has a role in bringing those parts together into a coherent whole. Because Mr. Capello was aware that learning to write a technical report involved participating in various activities and orientations, he incorporated them into his discussion of the writing assignments.

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Emphasis on formatting. Mr. Capello placed a great emphasis on correctly formatting assignments and their unique components. This emphasis reveals the necessity of attending to detail in engineering, and also supports the idea that even small formatting details are meaningful for communication. Mr. Capello offered formatting guidance on a variety of course assignments, even the low-stakes ones, which showed that he wanted his students to maintain an attention to detail. For example, the syllabus included specific instructions for formatting problem sets. It humorously highlighted the importance of clarity and detail: “You are not being graded on how little paper you can use or how small you can write!”

I observed Mr. Capello’s lecture on formatting engineering drawings. Drawings can be formatted according to a national or international standard and have two different presentation views: the isometric view, which presents an object three-dimensionally, and the orthogonal projection, which presents a two-dimensional, to-scale view of the object. Figure 1 demonstrates a standard technical drawing, with three orthogonal projections and one isometric view of the same object. Even the type of line is significant. A solid line indicates a visible edge, a dashed line indicates an invisible edge, a center line alternates between dots and dashes. Mr. Capello’s PowerPoint on engineering drawings was 16 slides long and included a number of other standards, relating to dimensions, curved lines, and positioning.

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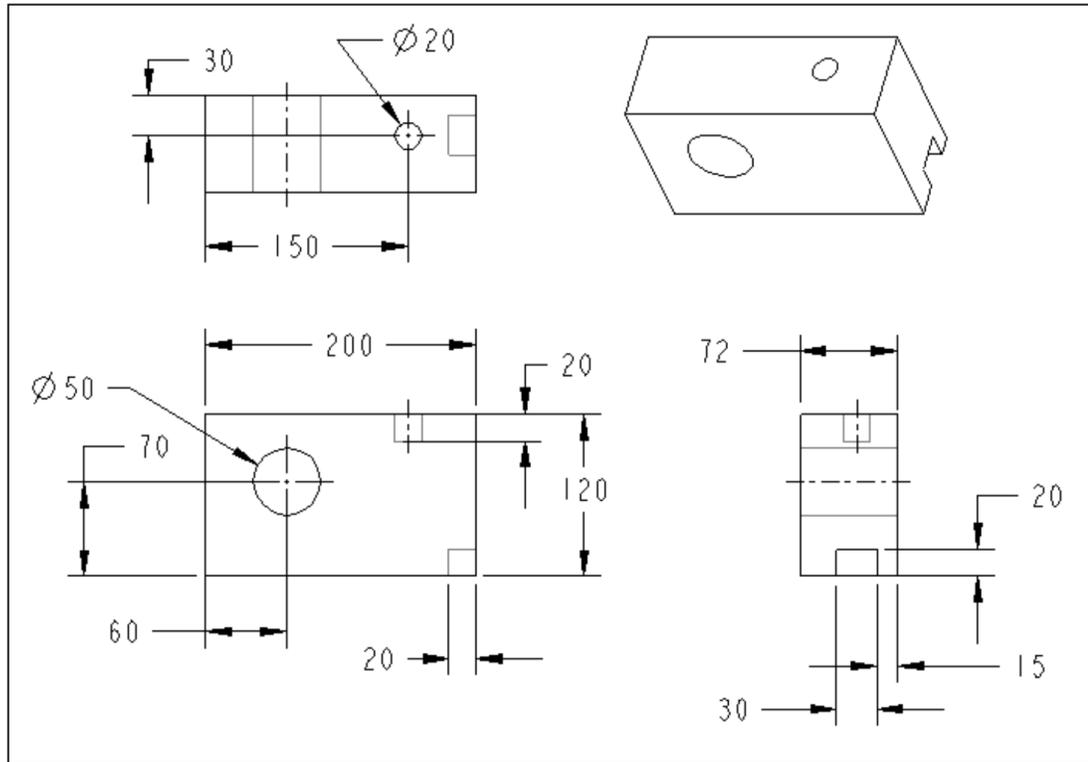


Figure 2. Screen shot from Mr. Capello's PowerPoint: Example of engineering drawings standard layout

Mr. Capello included a drawing requirement in each homework assignment. For each assignment, students had to watch a screencast tutorial on how to create drawings, “generate a 3D solid model to the homework specifications,” and then convert the 3-D model into a two-dimensional drawing, following the standards Mr. Capello presented in class. These assignments, taken together with the rigorous marginal feedback he gave students on the PDR, demonstrated Mr. Capello's emphasis on formatting and detail in technical writing.

Summary. Mr. Capello took a multi-faceted approach to teaching writing in Team Design in that he taught many of the behaviors that surround technical writing in addition to teaching the writing itself. He understood that communicating in engineering involves a number of non-writing genres, values, and activities, which range from Gantt Charts and mathematical formulas, to team meetings and the systematic display of the

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design process. Arguably, he taught these genres that surround writing more explicitly than he taught the writing itself. Aside from a brief allusion to mechanics and style in the writing prompts, he otherwise discussed the reports (in the prompts, in class, and with me) mostly in terms of specifications for technical content.

Instructional Goals and Strategies

Mr. Capello had multiple goals in teaching writing. He wanted to introduce students to their responsibility for writing in their professions, and also wanted their writing to enhance their understanding of the design process. The strategies Mr. Capello used to fulfill his instructional goals reveal an approach to writing instruction that is simultaneously concerned with the molecular details of technical writing and with the big-picture thinking that writing can stimulate. While he felt that his pedagogical approach stimulated the kinds of thinking he was after, this approach also posed a number of time constraints.

Introducing writing. One of Mr. Capello's instructional goals was to get students to think of themselves as writers. He acknowledged that, traditionally, people have entered the discipline unaware that they would need to be able to write—indeed, Mr. Capello indicated that engineers have entered the field precisely *because* they thought they would not need to write. If that culture still existed within the discipline, he wanted to eradicate it. In his words,

An early emphasis that [engineering educators] should place and need to place is that engineers write, to start. A lot of students come in thinking, like, I'm an engineer because I don't write, or I don't want to write. So letting them know right off the bat that yes, engineers need to write, and they need to be able to write well, is an important change in mindset. That it's not like, "Oh, I'll have an English major write my technical report at the end of the term"—you know, it just doesn't fly.

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In addition to his basic goal that students understand that writing is a part of engineering, he also had goals for the quality and correctness of their writing. He struggled to read some teams' reports, and told me that "some of the sentences you read in some of the reports, you just don't know where they're going, you don't know why there are commas where they are... and [you] just try to point out that that needs to be refined." The team writing contexts posed a challenge to Mr. Capello's attempts at improving individual writers, because

...a good writer can carry a lot of the team, and make a report that has poorly written sections come together effectively, and work out a lot of the kinks with a critical eye... So I don't know that seven of the members necessarily benefit because what they turned in, which was kind of crappy writing, can get turned into a good report.

Team writing inhibited another of Mr. Capello's writing goals, which was to teach students to write coherent reports. He told me that all too often team members are in charge of their own individual sections of the report and will include elements without any thought for how they contribute to a meaningful whole. For example,

I think in our PDR document we ask for... a Gantt Chart, and you'll get a Gantt Chart in that section, but it's just totally randomly placed. It's not connected to anything else. But they've fulfilled the requirement, whatever it is. You know, whereas we'd really rather that the Gantt Chart shows up because it's a useful tool and they're [using it to] talk about their schedule and their construction and testing plans.

To address this issue Mr. Capello introduced a component to the writing prompt that had to do with "narrative quality." He hoped that making that refinement to the assignment would induce students to translate the process-based thinking of their design projects into their reports. He told me that in the assignment prompts there was now "more of an emphasis on narrative quality, and um, telling a story, and having it make sense, than

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there had been in years past. Where[as before] it was more section, section, section, section.”

The design project was team-based in order to replicate the realities of the industry, but the authenticity of working on a team may have inhibited students from using writing in a thoughtful way. Mr. Capello’s desire to use the reports as a means for learning and literacy development conflicts with a major goal of the course, which was to show students what it “means to be an engineer.” Implementing proto-professional experiences may have been counterproductive to some of Mr. Capello’s aims for developing students’ writing identities because the team context was more conducive to writing as a means for “checking off boxes.” As I will show, this tension applies broadly to Mr. Capello’s writing instruction.

Professional preparation and intrinsic understanding. While Mr. Capello’s instructional goals were both instrumental and intrinsic, at times his multilayered goals appeared to conflict with one another. While he wanted the activities and assignments of Team Design to prepare students for a career in industry, he also occasionally wanted to dismiss the demands of industry and focus on students’ intrinsic understanding.

Often during the course of my interviews and observations Mr. Capello referred to the requirements of industry, and wanted his students to write in the genres that would be required of them professionally. That goal was evident when he asked students to write the executive summary sections of their reports so that their hypothetical “boss’s boss” would be able to read it quickly and understand it; and when he invited external faculty evaluators to come listen to teams’ oral presentations because the “pressure of the situation” was “in line with what they should expect in industry.” He acknowledged to

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me in an interview that the discipline is “fully applied,” meaning that engineering is concerned with solving real-world problems, and that disciplinary principles are typically taught and learned with those practical, i.e., industrial, ends in mind. Those principles are certainly embedded within the Team Design assignments and presentations.

Yet at a couple of points Mr. Capello wanted to de-emphasize the influence that industry had on the course. His primary goal, he told me, in teaching “Team Design” was student understanding of the design process, not professional preparation. He did not deny that students would be developing skills they could use in industry, but he emphasized that his goals were not as much skills-related as they were thinking-related. He told me,

I think we have to be careful not to have industry lead the thinking skills of our students. I think it's better for them to have some outcomes that they expect our students to achieve. You know, like the ability to write a design report, or to defend a design. But I think that the thinking is kind of our requirement. And building people into critical thinkers and problem solvers and things of that nature, which are skills that they value in industry, but are not—it doesn't come into my concerns, like, is industry going to be happy if I do this? These are kind of the requirements we expect of design thinkers, that I think we hold internally.

The first sentence of that excerpt is particularly intriguing because it indicates that, even in this applied discipline, he deliberately held the demands of industry at bay. His claim makes some sense in light of his description of the “convergent” model of engineering education. This educational model seeks to develop students who will not just look for “the” answer to a problem, but will think about a problem creatively and come at it from all angles. Mr. Capello indicated that a skills-driven orientation to industry might stifle the ingenuity he was attempting to instill.

Mr. Capello's emphasis on student understanding was reflected in his approach to writing instruction, and was visible in the prompts for both design reports. Early on in the

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assignment prompt students are warned that writing the report should not be viewed solely in terms of its practical ends, or as “simply... filling in a milestone requirement.” The same section of the prompt furthermore fulfills the “convergent” ethos in that it asks students to consider and describe the team’s “specific design decisions,” and how those decisions were made. The prompt asks, “If the final product diverged from your design concept, why did this occur?” These statements and questions indicate a value for process, not just product. The writing assignment documents not just the final outcome of the OSV (which would be the primary concern in a professional context), but also the thinking that went into it. Based on Mr. Capello’s comments and the clues we can derive from the writing assignments, we can understand that his primary aim was to develop critical thinkers and problem solvers. Preparing students for a career may have only been a secondary aim, though I posit that the stringent report specifications may have communicated a heavier emphasis on formal outcomes than on thinking processes.

A “convergent” approach to engineering education. Mr. Capello was strongly invested in the model of Team Design because it helped achieve his learning and professionalization goals. He was chagrined that engineering design is an uncommon approach to engineering education at EU and nationally. He characterized it as a “true design course in the curriculum,” whereas most engineering courses at EU and at other institutions focus on content. The thinking and practicing that students do in typical engineering courses, Mr. Capello explained, is to solve homework problems and analyze and solve abstract technical questions. Yet, he added, these are “not really the skills that you’re going to be using as an engineer.” Team Design was different because it was an

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authentic introduction to the engineering identity, and it prioritized intellectual and interpersonal skills over math and science content:

I think that this is a process course, and it gets you to understand the process of being an engineer, working in a team, making mistakes and learning from them, getting back up on your feet when you get knocked down. So I think this is a really important course in the curriculum for those reasons. And I think that a lot of what students should walk away with are not the obvious lessons that they think at the time. I think they walk away thinking—"I know something about motors, I know something about batteries." And that's really like so secondary to, like, "I know something about being an effective team member, I know something about what's required to actually put a report together that I'd be proud of, I know something about how to actually deliver on a product, not just make promises." So those sorts of lessons I think are the important ones they get out of this course.

This excerpt demonstrates that Mr. Capello viewed writing as an integral part of "the process of being an engineer." The thinking and decision-making of engineering design requires writing and communication skills in ways that a "simple, basically long homework problem" cannot do.

Mr. Capello described his approach to engineering education as "convergent." The traditional model emphasizes textbook problems that imply there is a "certain way that you solve it, and when you solve it the answer is *this*." The new model is convergent in the sense that "there's a problem and there's lots of ways to solve it and you have to go find what's important, you have to make some assumptions, and then you've got to converge on what is a good solution." A convergent model is more oriented to writing and literacy because the student's thinking processes need to be communicated. A purely mathematical solution to a problem cannot communicate the assumptions, preliminary choices, false starts, and final choices that engineers must make when doing a project. The convergent model of engineering education makes more room for subjectivity and

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human agency in a domain that has traditionally viewed knowledge as “objective and value-free,” and is concerned with “universals” (Lattuca, 2001, p. 33).

Mr. Capello considered error to be instructive, yet he told me that students found it very difficult to admit what went wrong in their designs. He said that “it’s almost like there’s a fear of being straightforward and critical, and realizing that your design wasn’t ideal.” The presentations and reports of “Team Design” aimed to push students to accept their own mistakes, and also to systematically describe those mistakes in the written and oral assignments. Whether students’ resistances came from a scientific epistemological stance that is intolerant of error is unknown. However, what is clear is that Mr. Capello wants students to learn from their mistakes. One of the required sections in the FDR is called “Lessons Learned” for that very reason.

Time constraints of Team Design. Mr. Capello found it very difficult to accomplish all his goals within the span of the semester. The time limits precluded him from helping the students to achieve mastery in anything, including writing. He mitigated these constraints by framing the course as a survey, and by encouraging students when they felt discouraged. He told me that

... we have so little time for talking about anything. You know, writing certainly falls on that list. So I often describe the 100-level course as an exposure to engineering as a discipline, and you can maybe find what it is you’re excited in, but essentially in seven weeks we teach students a little bit about the design process, we teach students about [Computer-aided Design], we teach students about 3-D printing, we teach students how to use an Arduino, which is like a little electronic brain. We teach students about writing and oral communications, we teach students about electronics, we teach students about mechanics... so I don’t think we do writing particularly poorly, I think we do everything kind of poorly.

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Mr. Capello worked around those limitations by emphasizing the fact that the course presented students with a wide variety of concepts, skills, and experiences, and he believed students profited from this exposure in different ways. He told me that

...for some students this is the first time they've ever touched a power tool, and just being in the lab and soldering and drilling holes and you know, is good for their development, and kind of gets them over that hump. For some students it might be the writing, for some students it might be the critical thinking. So it's hard really to say that every student is going to walk away with the same knowledge. Or the same set of experiences that are influential in their development. But I think we just have to take that as-is, and try to make sure there's good learning throughout...

He admitted that the strategy was not perfect, especially when it came to writing development. He said that "In terms of trying to develop all of our undergraduate students to be better writers... what we're doing doesn't necessarily lead us to that outcome." Yet he seemed willing to accept these constraints in exchange for enhancing students' thinking and development as future engineers. He tried to give his students some perspective too, when they expressed insecurity about the quality of the work they were producing. He wanted them to see just how far they had come, particularly with their writing, in such a short period. Therefore part of his strategy for dealing with the time constraints of the course was to act as a cheerleader for his students, which he did by reassuring them that Team Design assignments are major accomplishments. He told me that before students turned in their first reports, he had reminded them that

...it's their first six weeks on campus—they don't know where all the dining halls are, they don't know where the laundry is—you know, they're trying to get acclimated... to a brand new environment. And while that's happening, they were able to crank out a 25-page team paper. So even if it's bad, it's impressive because they're realizing what's required to do a good job. How do we have to plan ahead, how do we have to work in a team, how do we do things of that nature?

During another interview, he told me,

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I had a student come in yesterday and he was actually kind of amazed at what they accomplished, but also a little disappointed in the report they turned in because it wasn't what they thought it should be. But when you look back, he was a high school student last year, he's been on campus six or seven weeks, he just turned in 25-page report that he collaborated on with 8 team members, on things he had never learned about or thought about before.

So, while the course was “overtaxed,” Mr. Capello indicated that it was still a powerful introductory and socializing experience for students. He considered his “poor” writing instruction to be preferable to a traditional textbook-centered curriculum because it introduced students to literacy experiences that enhanced their understanding of the discipline.

Summary. Mr. Capello's approaches to writing instruction embody his continual efforts at keeping multiple goals and values in balance. On a broad scale, he strove to reconcile his own pedagogical values with the demands of the discipline. Engineering is an applied discipline, so educators necessarily seek to develop professional identities, but Mr. Capello wanted to ensure that an emphasis on professionalization would not distract from learning goals. He believed in the model of “convergent” engineering education, but was also aware of how the time limits of the semester constrained the pedagogical approach. He wanted students to achieve the macro goals of developing writing identities, and of pursuing narrative coherence in their writing, but he also pushed students to attend to such small details in their reports as unit errors and citation consistency. His dualistic approach to writing instruction showed he was situated in a disciplinary context that was both a constraint and a resource to him as he pursued his goals of intrinsic understanding and professional development.

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Feedback and Assessment

The different Milestone assignments were structured so that Mr. Capello could provide students with evolving feedback. This feedback was formative in that it attempted to facilitate students' thinking processes, and help them build toward an excellent final product. To fulfill his learning and professionalization goals, Mr. Capello's role as assessor shifted throughout the course, moving from formative and collaborative to summative and evaluative. Mr. Capello's evolving, multifaceted approach to feedback reflected his aims in teaching engineering design as an iterative process.

Formative approach to feedback. Mr. Capello summed up his typical feedback on the Preliminary Design Report as, "You have to keep going." His approach to feedback was formative in that he wanted teams to apply it from one assignment to the next. He viewed feedback as so valuable that he likely structured the curriculum as a long sequence of assignments so that teams could use the continual feedback as a mechanism for continual improvement.

Mr. Capello shared a few examples of his feedback on PDRs and these examples demonstrated his thoroughness. He told me that he typically spent between eight and ten hours grading each team's report, and I saw that each page of each report was colorfully spattered with feedback that ranged from word- and sentence-level mechanics to universal structural issues. His marginal comments included corrections of mathematical equations, requests for conclusion sections, demands for passive voice, and revisions of disjointed, disconnected style.

He told me that students sometimes found the feedback discouraging because, as he said, "Our engineering students are very high performing" and may not be used to

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criticism. But his goal with such comprehensive feedback was not to overwhelm students with the sense that they were failing miserably. Rather, as he told me, he tried “to impress upon them that this was intended to be productive feedback for you. And my intention, my hope, is that it allows you to write a better final report.” More than that, he hoped that his “constructive feedback” would enable teams to “produce a final report that you’re proud to leave as sort of a course artifact.” He tried to get students to see that a high quality report meant more for the students than just a good grade, or a high performing product, but it also positioned the students to represent and contribute to the reputation of the course.

Mr. Capello was pleased to see students improve as a result of his feedback. He told me that one team performed very poorly during the Project Development Plan Consultation, the first oral presentation assignment. That team was “unprepared, and really, it didn’t seem like [they] put a lot of time in. And they were making lots of claims like, ‘This will be easy to do,’ or like, ‘We’re just going to do that,’ but nothing was actually done.” Then, for the next presentation in the assignment sequence, they “gave one of the better presentations.” Mr. Capello offered this anecdote as confirmation of his view that tough, formative feedback was necessary for inducing improvement in the team reports.

Shifting roles as assessor. Mr. Capello characterized his role as an assessor differently to his students at the different stages of their design projects. By framing himself as a supportive peer to students during the earlier stages of their design, as a faculty evaluator after their preliminary reports, and as an employer after their final reports, he meant to impress upon the students the increasing stakes of each assignment.

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Moreover, his shifting roles appeared to serve a professionalizing influence in that his later evaluations reproduced a high-pressure atmosphere that students might experience in a career.

For the Project Development Plan Consultation, Mr. Capello described himself as being in a “partnership” with each team, as opposed to “Me vs. Them.” He did not want his students to see him as an authority figure, but as a brainstorming partner. Mr. Capello used the informal atmosphere to offer constructive feedback “if there were things that I didn’t think were being presented in an effective manner.”

For the Preliminary Design Presentation, Mr. Capello took off the training wheels, so to speak. Teams presented their preliminary designs to classmates, Mr. Capello, and two external evaluators. One of those evaluators was always another Team Design instructor and the other was “in some ways notable, renowned, you know, that has some keener insights and doesn’t know anything about the project.” The semester I collected data, these external evaluators were a visiting professor in aerospace engineering and the chair of the civil and environmental engineering department. By enlisting evaluators of varying professional status, Mr. Capello attempted to simulate a professional atmosphere for teams. He explained,

It’s more in line with what they should expect in industry. I often tell them that you may be working for two or three months, and you have a ten-minute window to impress your boss’s boss... So having these four different levels of different people is interesting. The teaching fellow is more like their colleague-friend, um, I’m more like their first level boss is the way I describe it, like we spend more time together, I know they’re working hard, I trust a little more that there’s some substance even if it doesn’t come through, and then the other two people kind of keep them honest. And the highest level person is this—you know, how do we really get to this person in a way that, you know, pleases them, excites them, makes them walk away like, “I’m comfortable writing checks for the next month for this project to continue because I believe in that team.” So that’s the way I frame it.

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Mr. Capello had an evolving role as an evaluator on the teams' written work, too. As I wrote above, Mr. Capello provided "extensive" feedback on the PDR, which he "intend[ed] to be helpful" for the final report. Conversely, Mr. Capello said he read the final reports "the way an engineering manager would." That is, he skimmed each report just to "make sure things are where I expect them to be." He later elaborated,

So this time through it's just—did they listen? Are things where they're supposed to be? Are the graphics appropriate? I for sure read the executive summary, and the intro, and I read some of the other sections, but it's more of a skim...

He told me he spent only about an hour on each of the FDRs whereas he spent up to ten times that on each of the PDRs. He had two practical reasons for reading the final reports like an "engineering manager." First, the teams turned in the reports during the final week of the semester, which gave Mr. Capello a small window to grade them and then submit his course grades. Second, he said that students were "not going to benefit from detailed written feedback at this point. If they didn't take the advice on the PDR and make a better FDR, you're just kind of turning your wheels again." In other words, students had their chance to profit from the feedback on the PDR. Mr. Capello was realistic about the fact that, at the end of the semester, students were not likely to read or reflect on extensive feedback on the final report. As he hypothesized,

if I spend a lot of time giving them final feedback, my guess is that 3 or 4 students in the class would take some of the feedback to heart, and the other 36 or so would just be like, "Got the grade, passed the course, moving on," you know, "There's no more growth opportunity here for my writing."

His reasons for offering significantly less feedback on the FDR were logistical, yet he capitalized on the semester's time constraints by framing himself as an "engineering manager" in the final stages of students' writing for the course. By making

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them feel “the pressure of the situation” Mr. Capello hoped to induce students to improve with each Milestone assignment. Taking on a managerial role and bringing in high-status external evaluators may also have served to reproduce the high expectations of a professional context.

Summary. Mr. Capello’s feedback and assessment of student work reinforce our understanding of his view that writing is a balance of multiple purposes, both macro and micro, developmental and professional. The various reports and oral presentations gave students multiple opportunities to share their designs, incorporate feedback, and go back to the drawing board. These opportunities reflected Mr. Capello’s intrinsic goals for understanding the design process. However, by taking on the role of an engineering manager and bringing in esteemed external evaluators to assess certain assignments, Mr. Capello simulated professional situations that indicated goals of professionalization. While early in the course, writing and presenting were meant to facilitate understanding, the oral presentations then became a “ten-minute window to impress your boss’s boss.” Mr. Capello reconciled his fluid goals as a writing instructor by presenting himself to his students in different roles as an evaluator.

Conclusion: Approaches to Writing Instruction

Six “fundamental engineering topics” are listed at the top of Team Design’s course syllabus. The study of these topics was meant to help students arrive at the course’s main purpose: to understand what it “means to be an engineer.” The first two of these six topics are “Teamwork and group dynamics,” and “Communication skills.” The syllabus communicated right off the bat that the most valuable skills an engineer can possess are not related to math and science knowledge, or even problem-solving ability,

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but are teamwork and communication. The order of these course goals encapsulates Mr. Capello's approach to engineering education.

However, his approach is situated within a discipline that prioritizes applied knowledge based on math and science. As Mr. Capello told me, the traditional approach is to teach these principles through endless problem sets. Team Design's model of convergent engineering education enabled Mr. Capello to emphasize teamwork and communication through its design-based curriculum. However, in an applied discipline, the skills-based demands of the profession are ever-present. Though he acknowledged these demands, Mr. Capello explained that he did not want the requirements of industry to be a distraction from understanding. This resistance was exemplified in the report prompts' exhortation that students not treat the reports solely as a collection of specifications, but as a coherent whole that "makes sense of the experiences of your team." And yet, though he wanted teams to describe their experiences in a narrative style, he also continually admonished them from using the active voice. Though "originality is encouraged," the reports are still heavily specified.

Though Mr. Capello's expressed goals were at times in tension, design-based engineering education and a vocational engineering training are not necessarily mutually exclusive. Mr. Capello achieved a balance between the two approaches by taking different positions as an evaluator of student work over the course of the semester. By taking an evolving stance as a guide and evaluator of students' writing, Mr. Capello attempted to reconcile his intentions for deepening his students' understanding of engineering as a *process*, and for preparing his students for engineering as a *profession*.

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These efforts were often frustrated, however, by the sheer scale of the course and the time-constraints of the semester.

Factors Influencing Approaches to Writing Instruction

This section of the case explores the extent to which Jason Capello's academic biography, disciplinary identity, and educational ideology shape his writing instruction. The section ends with a discussion of the influence of departmental and institutional norms.

Academic Biography

Mr. Capello is an interesting case because his academic biography was set at EU, where he teaches. He was now teaching a course that he himself took, and his experience being challenged as a student clearly shaped the current version of Team Design. While his instructors in two other courses also had a strong impact on Mr. Capello's learning, their influence on his teaching is less clear.

Struggle. Mr. Capello's academic experience was marked by different kinds of challenges, which were instructive for his approaches to teaching in general, and teaching writing in particular. His undergraduate degree introduced Mr. Capello to the exciting possibilities of problem-solving and engineering design, but his program also provided a limited—and limiting—technical education, which he did not want his students to repeat. His writing instruction was characterized by efforts to reproduce the challenge that was so stimulating to him, but to reduce the kinds of challenges that inhibited his learning.

Mr. Capello did his undergraduate work at EU, in aerospace engineering, and described the program as a challenge, “which I enjoyed.” He thought his courses were

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“interesting and exciting because they were constantly pushing my mind to think and learn in new and different ways.”

His undergraduate experience had a visible influence on his teaching, and on his teaching of writing in particular. And I mean “visible” in a literal sense. During our second interview, Mr. Capello showed me a photograph of the project that he had completed when he was a student in his first-year engineering design course. The course had the same course number as Team Design, but as Mr. Capello told me, it was a very different course back then. The photograph showed what was “intended to be like a solar water cooker,” though it “wasn’t really substantiated with any calculations” and had fulfilled a design project assignment “that the weekend before, you could build and test, and whatever it was, it didn’t really matter.” Mr. Capello kept the photograph on his office bulletin board as a “reminder that that’s not where we want to be.” He was in the unique position of having direct experience with the project as a student, and he kept documentation of that experience as a visual reminder of his mission to develop and maintain a better supported, more meaningful project experience for his students than he himself had. He wanted the OSV design and its associated assignments to elicit the kind of hard thinking that he himself had to do as a student. For Mr. Capello, if work is challenging in the right way, it is “exciting”—a word he used in reference to both his own undergrad work and to the OSV project assignments. He believed that his own students wanted to experience such a challenge:

I think that having a simple, basically long homework problem, that might take a weekend to do, is not the kind of problem that excited them. It was these problems that, it’s going to be hard, we may not be totally successful, but if we are, you know, we’re going to overcome a lot.

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The problems Mr. Capello experienced with his first-year design project help explain his efforts to standardize course content, and dictate the reports' content and organization. By staggering "Team Design's" Milestone assignments over the course of the semester, Mr. Capello ensured that the project would not be completed "the weekend before" it was due. The detailed report specifications reflected his efforts to teach the content knowledge that would enable students to build functioning OSVs. The absence of standardized content when he was a student was a problem because students did not understand the necessary engineering principles they needed to complete their projects. As he told me,

Any given faculty member could do many different things. So when I took this course, my experience was that there was really no technical guidance given, and what you would need to do a good job would be understanding some heat transfer. We didn't see any of it. That's something that usually shows up in the third or fourth year of a mechanical engineering curriculum. So we really didn't have anything that we could have used to do a good job. And then in other sections where I had friends at the time, they were getting slammed with like, junior-, senior-level heat transfer, you know, and they hadn't been through a thermodynamics course or any of the foundational experiences. Where they would walk out of class, like, "I don't even know what those symbols mean."

When he became an instructor Mr. Capello and his colleagues addressed that problem by changing the requirements so that students designed a pre-assigned craft—not something they chose on their own—and made sure that the product specifications would be the same across sections (the semester I collected data students were required to make an over sand vehicle; in previous years they had been required to make a hovercraft). This continuity enabled all Team Design faculty to teach the specific principles and equations that students would need to build the product. The prescriptive nature of the assignment may appear to inhibit students' creativity in ways that an unfettered project would not have, but by providing students with the basic building

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blocks (i.e., relevant principles of math and physics, and of technical design and communication), Mr. Capello claimed he facilitated their ability to make creative decisions. The concrete skills and structure of the assignment sequence appear designed to create a more direct path to some of the intangible professional qualities identified in the syllabus. Though students had not yet developed professional expertise and were only first-year students, the scaffolded nature of the project enabled them to authentically participate in some of the professional genres of the field.

Mr. Capello explained that, as students, he and his classmates were frustrated and disempowered by the fact that they did not have enough grasp of the course material to be able to produce meaningful or functional projects. Though his own students experienced frustration too, he wanted them to be proud of where they were, and what they had accomplished so far. This desire was evident when he asked his students to bear in mind that they had done a lot, considering they were only first-year students and had been high school students just one year prior. He used the two design reports as evidence of this accomplishment, and pointed out how impressive it was that they created these complex documents in such a short time. In that sense Mr. Capello seemed to use his own struggle as an engineering student to create a challenging but productive experience for his students.

Influential teachers. Mr. Capello told me about two teachers who had a powerful influence on him as a student, and whose influence can be detected, to varying degrees, in his own teaching. One of these teachers was an engineering professor who did not introduce Mr. Capello to the importance of writing, but did make Mr. Capello think in ways that Team Design assignments later reflected. He appreciated this professor—a

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professor of aerospace engineering—because of his “different methods and different approaches” to teaching. And though this professor’s courses seemed to be content-oriented and lecture-based, and did not appear to be innovative in terms of the assignments he gave the professor was noteworthy because Mr. Capello learned so much from the challenging course content and coherent course structure:

Often when he was teaching, you know, he’d have a cup of coffee or a soda and he’d be almost five boards in front of the class, and you would just be scribbling as fast as you could, like you almost couldn’t keep up with the person. But then you would go back and you would work on one of his assignments, which was very well tailored to his notes. And you would just read whatever it was, 20 pages of notes for that week, over and over and over again. Like the whole picture would just come together. So we really I think thought a lot about the material he was giving, the kinds of questions he was asking, to test you on that material. And I always found his classes to be the ones that pushed you the furthest.

Mr. Capello’s professor seemed to think a lot about the coherence of the course—how all the pieces tied together into a “whole picture.” This value for coherence was echoed in Team Design’s technical reports. Mr. Capello wanted his students to think about the various sections of the report “so that it’s less... pieces, and it’s more product, you know, a concise product.” Whether Mr. Capello directly, consciously translated his appreciation of his professor’s well-rounded lectures to his own sequence of writing assignments is too big an inferential leap. However, Mr. Capello recognized how much his professor’s clarity and coherence helped him learn, and clarity and coherence were the principles that guided Mr. Capello’s assignment sequence, and were moreover what he valued most in his students’ writing.

Another instructor who had a big influence on Mr. Capello was a technical writing instructor in the English department at EU. The technical writing course “was one of my best experiences here” because his instructor encouraged students to use any

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project that they were actually working on outside the writing course as a subject to write about. At that time Mr. Capello was working on a project related to “acoustics and small vehicles, small aircraft,” so he wrote a course paper that he turned into a conference presentation.

Mr. Capello wanted to re-create the authentic, professionalizing writing experience for his students. As the syllabus states, the main goal of the course is to show students what it “means to be an engineer,” and one of the ways he accomplished that goal was by getting teams of students to actually design and build a product from scratch. Mr. Capello told his students on more than one occasion that the technical reports associated with the design experience were not arbitrary requirements of the project, but were required so that students could make sense of their team experiences, so that they could more realistically imagine the production of similar genres in a professional context (he told students to imagine their “boss’s boss” reading the documents), and so that they could create a “course artifact” that would leave a meaningful record of the OSV design process.

Summary. Mr. Capello loved being challenged, but only if the work was meaningful and well-supported. Mr. Capello was explicit about how his frustrations as a student in the first-year design course directly motivated him to improve Team Design by structuring the assignment sequence and providing students with more background knowledge. Moreover, both of the instructors Mr. Capello described were important to him because they set individual topics and projects within a meaningful, coherent context. Mr. Capello set up Team Design in a similar way so that students would become aware, from the very first semester of their major, of the broader significance of the

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course—a pedagogical approach that differs from traditional engineering courses that present content in isolated batches and ask students to process that content through repeated problem-sets and example problems. He did not overtly cite his instructors' influence on his approach to teaching; however, his professors' coherence, clarity, and relevance all echoed in his own approaches to teaching writing.

Disciplinary Identity

Engineering is an applied discipline that draws on mathematical and scientific principles to solve practical problems. Textbooks, the field's predominant genre, are designed to enhance students' content knowledge and give them practice with problem-solving. While traditional engineering courses are textbook-centered, design pedagogies purportedly connect students' learning to their future professional identities by giving them hands-on experience with real design problems and professional genres. Embedded within this model of design pedagogy is an orientation to writing and literacy that is not implicit in traditional textbook-centered courses. Mr. Capello acknowledged the importance of writing as a means for enhancing understanding, yet, curiously, did not acknowledge a current writing practice of his own.

Disciplinary genres and knowledge values. The two textual genres that Mr. Capello spoke of were the technical report and the engineering textbook. Though one was a professional genre that Team Design students produced and the other was an academic genre that students consumed, both forms encapsulate the derived and applied nature of knowledge in engineering. Engineering is both a derivative and an applied discipline in that it draws on the knowledge of other disciplines in order to solve practical problems. Mr. Capello liked a quotation from aerodynamicist Theodore von Kármán, because he

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thought it elegantly encapsulated the purpose of the field, and established the bridge between science and engineering: “Scientists study the world as it is; engineers create the world that never has been.” Mr. Capello used physics as an example to explain how engineering draws from other disciplines. He said,

Now our students all take those sorts of physics courses and read those texts but by the time they’re in an engineering discipline, it’s the application of those same principles. You know, we don’t necessarily try to prove Newton’s laws, we take it [sic] as fact, and we apply it... to lots of practical situations. So you want to design a system like this, what could you do? You want to analyze a system like that, how would you do it? So yeah, it’s fully applied.

Textbooks compile and present those principles, along with lots of problems to help students practice applying the knowledge in hypothetical scenarios. The technical report genre is also an exemplar of derived knowledge, in that it contains a hodge-podge of content with different disciplinary origins. The two technical reports in Team Design incorporated a variety of textual genres and languages from other disciplines, including formulas and calculations (mathematics), wiring schematics (electronics), programming language (computer science), and project schedules like Gantt Charts (project management). The design reports carried out the problem-solving purpose of the field in that they documented the design and construction of a material product that served a particular purpose—the OSV. Design reports in the field, and in the course, serve as a means for explaining and recording how abstract scientific and mathematical principles are used in the design of a functional, physical object.

Engineering design as a means to authentic problem-solving. The function of engineering knowledge is to solve practical, material problems, and Mr. Capello believed that engineering design was the best means to that end. He claimed that the convergent model embedded in a design-based pedagogy led to better learning than traditional

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engineering education did, in part because design courses gave students practice in applying their knowledge through professionally authentic literacy experiences.

In most engineering programs, students take a set of core courses on fundamental engineering principles such as statics (the mechanical principle that deals with loads or force on systems at rest), dynamics (physical systems in motion), physics, chemistry, and engineering statistics. Mr. Capello described these principles as “foundational;” they create a “baseline understanding” upon which students build as they move through their majors. As Mr. Capello explained it,

So we have Newton’s laws, we use them in a simple setting, and we keep using them sort of course after course after course. So you know I think that foundation of, “Do I understand what’s actually happening at the ground?” is what allows you to build into your disciplines.

Mr. Capello characterized Team Design as a kind of enhanced exposure to those principles. The course introduced students to fundamental engineering knowledge, but in what Mr. Capello called a “real engineering space.” That is, requiring students to design a project of their own gave them a more authentic understanding of basic engineering concepts. The Milestone assignments were authentic in that they were topically centered on an actual design project as opposed to an abstract concept. Team consultations, oral presentations, and technical reports also mirrored the kinds of work that professional engineering teams do. Mr. Capello believed that a design-centered curriculum provided an ideal context for teaching the fundamental principles of engineering through oral and written genres, and that better learning of these principles would enable students to problem-solve more effectively in their careers.

Writing identity. Mr. Capello wanted the Team Design assignments to cultivate students’ engineering literacy (Shanahan & Shanahan, 2012) through exposure to

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professional genres. However, discerning the influence of his own writing identity on this desire appears to be complicated by the shift in his own writing practice as he moved from student to faculty. Mr. Capello had a formative experience in his technical writing course as an undergraduate, and his motivation that students use their writing to “make sense” of the design process echoes his experience. However, while his *value* for literacy has clearly remained strong, his *identification* as a writer is less clear.

One of the possible reasons he did not identify as a writer was that he did not do the kinds of writing he assigned in Team Design. Because engineering is an applied discipline, Mr. Capello was preparing his students for a career different from his own—he was an educator, but his students would become practicing engineers. Perhaps because he did not produce technical reports in his capacity as an instructor, Mr. Capello did not “think too much about [his own] writing.” His tenuous writing identity may be explained by a shift in position since he first learned the importance of literacy—that is, he was no longer a student-writer where he could use technical writing to develop and expand on his research interests. Now, as an engineering educator, he was no longer engaged in those genres himself. His shift in identity makes sense, given that

...as individuals move across contexts, the specific identity encodings that have been activated by and enacted in their histories of participation should shift and change as people encounter variations in recognitions, assignments, and affordances available in the given context (Moje, Luke, Davies, & Street, 2009, p. 420).

Actually, in his context as a teacher, he wrote every day. However, the kind of writing he did supported his teaching practice and was thus not visible to him as writing in its own right. He described it this way:

I mean often we're writing problem sets and things, so we're writing every day, right? This morning I was—you know, in the hours before you got here I was

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writing up problems that we're going to ask on a current homework, and we're often reviewing our colleagues assignments, and we're writing up descriptions of reports we want students to have. So we write a lot, but I also don't necessarily think that writing is, you know, to sort of sit down and write a paper is not something I do. You know, it's more like writing in the every day.

My impression was that he would not have acknowledged even his "writing in the every day" if I had not asked him questions about his writing practice. He told me that he occasionally wrote a conference paper or a grant proposal, but he added the caveat that these texts were for the field of engineering education, not for engineering itself.

Part of the reason that Mr. Capello's own writing differed so much from that of his students was due to his professional status. As a non-tenure track lecturer he did not engage in engineering research, but rather his daily work was devoted to thinking "about what we teach, how we teach, when we teach it, and how we develop students." But even if he was a tenured or tenure track professor, the kinds of writing he would have been doing in that case would be research-related, and thus still academic in nature. His tenured colleagues, for example, wrote articles for scholarly journals, conference papers, and perhaps wrote or edited textbooks. These genres do not resemble the kinds of texts students produced in Team Design.

Because engineering is an applied discipline, a divide exists between the discourses of industry and of academia, and between the writing practices of engineering students and engineering educators. Drawing a direct connection between Mr. Capello's own writing practices and his approaches to writing instruction is more difficult than it might be for a practitioner who produces the same kinds of texts that students read or write (like a historian). Mr. Capello strongly believed that his students should know how to write, but due to a shifting professional context, his own identity as a writer was not as

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strong as it had once been. His emphasis on literacy in his course appeared to be less influenced by his current writing practice than it was by his memory of past literacy experiences.

Summary. Mr. Capello did not identify strongly with his role as a writer, which may have stemmed from the fact that his daily practice resembled neither engineering scholarship nor the kinds of proto-professional writing his students did before they entered the field. Would he have taught technical reports differently if he could have modeled his own experience with them to students? His belief in the superiority of a design-based approach suggested that, irrespective of his own writing practice, he still viewed writing as a tool for learning and sense-making, as opposed to the traditional conception that technical writing is the simple documentation of facts (Miller, 1979).

Educational Ideology

Jason Capello's educational beliefs were oriented to professional preparation, and the writing assignments in Team Design to a large degree echoed that view.

Professional development as identity development. Mr. Capello considered that a college education is instrumental for preparing students for their professions. However, his philosophy of professional development was not about skills as much as it was about identity. That is, he wanted students to be able to answer the rhetorical question in the Team Design syllabus: "What does it mean to be an engineer?" The response to that question did not mean the mastery of a set of vocational skills. In fact, he believed that *too* strong an orientation to the profession could be detrimental to this role development. In spite of his view that Team Design introduced students to a professional identity, the writing assignments in many ways perpetuated a vocational view of engineering.

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When I asked Mr. Capello about his views of the purpose of an education, he spoke about “preparation for the work force, preparation for graduate school, if that’s the path. Whatever it is, preparation for law school, whatever it might be.” He said that this view of education as preparation for the future was particularly apt in engineering, which is logical considering the discipline’s orientation to applied problem-solving in real-world contexts. Mr. Capello’s professionalizing goals were evident often throughout the course. He created experiences that were “in line with what they should expect in industry,” and the written assignments were clear examples of those simulations. The technical design reports, for example, followed the typical structure of reports produced in industry. Mr. Capello invited external evaluators to the oral presentations to simulate the experience of presenting for “your boss’s boss.”

Extrapolating from his day-to-day teaching however, Mr. Capello’s educational ideologies appear to be more complex than the characterization above. As I have described previously, he tried to sequester the influence of industry when considering student learning. As the following excerpt shows, while he used industry demands to inform his macro-planning of the course, he pushed those demands aside in his daily interaction with students. In his words,

I think the thought of industry is sort of the structuring of the course and the Milestone sequence and the emphasis on product development, the design reviews and the ways in which they’re being held and managed. So I would say that in terms of thinking about how am I going to get them to learn more in the course—to me it’s disconnected from what industry wants or needs or expects, or what our students are going to need to demonstrate.

Mr. Capello’s philosophy about preparing students for industry was present during his initial structuring of the course and its assignments, but when he considered how to use these structures to enhance student learning, he intentionally sidelined the demands of the

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profession. As he told me, “I think we have to be careful not to have industry lead the thinking skills of our students.” This comment suggests that taking a purely vocational view was overly simplistic, perhaps because training for specific engineering-related job skills was not as valuable or as long-lasting as design-thinking, the ability to work on a team, or communication skills.

Mr. Capello’s view of professionalization, at least as far as Team Design was concerned, was that it should be the development of a role, not simply the collection of skills. Whereas some engineering design courses tied the design experience to an actual industrial need, or even to an actual organization, Team Design attempted to give students more of a holistic feel for the role of engineer. As Mr. Capello explained,

Our project is not that closely tied to industry, I would say. Some of these projects that students will do in their first year are kind of carefully selected and partnered with industry at different schools. So it’s a service-type project, and here’s your client, and you’ve got a relationship with this group... Um, our model is different.

He went on to explain that the goal was to get students “inspired and understand what engineering could be and should be.” While the course did offer a “professional-like setting,” it was less of a vocational training than it was a “process course, and it gets you to understand the process of being an engineer, working in a team, making mistakes and learning from them, getting back up on your feet when you get knocked down.”

Writing as reinforcement of vocational view. While Mr. Capello portrayed Team Design as a means by which students could take on the mantle of an engineer, the writing assignments, for the most part, did not confirm this view of identity development. However, taken in conjunction with other components of the course, the writing assignments contributed to Mr. Capello’s big picture goals of initiating students to the field.

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The technical reports in many ways reinforced the vocational view that Mr. Capello wanted to downplay. As I showed above, he was heavily oriented to specifications and mechanical correctness in the reports. The oral presentations were a deliberately high-pressure situation that simulated a professional presentation. When discussing the required conventions of the technical reports, Mr. Capello regularly invoked future employers and other professional contexts. But he considered writing to be only one aspect of the course's many offerings, and so his vocationalist approach to writing should not stand in for his overall view of the course mission. He believed the course contributed to students' disciplinary development in a number of different ways. As he said, the course was "all over the place" in that "every student seemingly gains in some different way." He continued,

For some students this is the first time they've ever touched a power tool, and just being in the lab and soldering and drilling holes and you know, is good for their development, and kind of gets them over that hump. For some students it might be the writing, for some students it might be the critical think—so it's hard really to say that every student is going to walk away with the same knowledge. Or the same set of experiences that are influential in their development.

In this passage he portrays Team Design as a kind of buffet, from which students can select whichever concepts and experiences are most beneficial to them. So, although Mr. Capello frames the writing assignments in professionally-oriented, prescriptive way, he considers them to be just one contribution to an overall identity-building experience.

Summary. In my discussion of Mr. Capello's academic biography, I noted that he appreciated educational experiences that enabled him to construe a broader meaning. He approached Team Design in a similar way. The OSV project provided many different experiences for students, ranging from hole-drilling to report-writing. From these unique experiences Mr. Capello hoped his students would derive a broad understanding of what

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it “mean[s] to be an engineer.” In Mr. Capello’s espoused and implied beliefs about the purposes of higher education, again we see his efforts at maintaining an equilibrium between the acquisition of technical skills and the development of a domain-specific identity.

Departmental and Institutional Norms

The Axis Program both enabled and constrained Mr. Capello’s writing instruction. The program’s design-based, experiential learning courses enabled a writing-intensive curriculum in Team Design, and supported Mr. Capello’s writing instruction. However, the team writing experiences inherent to the design curriculum also limited some students’ writing development. Another institutional constraint on Mr. Capello’s writing instruction was that he believed his instruction would have benefitted from cross-departmental coordination, but such coordinated efforts were not always logistically feasible.

The Axis Program’s pedagogical values. The Axis Program enabled Mr. Capello to work toward his goals of a convergent engineering pedagogy, and he attempted to achieve those pedagogical goals in large part through the Milestone assignments entailed in a design curriculum. Mr. Capello told me that many engineering programs at other universities focused only on the success of those students who “get through and survive” the first-year fundamental courses, but the Axis Program wanted to engage students “from the beginning, so that our students are inspired and understand what engineering could be and should be.” The program’s mission was to spark students’ interest in the discipline and thereby increase retention, because attrition had been an issue in previous years.

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Team Design engaged students by introducing an intensive “design experience” at students’ first exposure to the discipline, whereas engineering students typically do not encounter design courses until their senior year. Design projects require writing in ways that more traditional textbook-centered courses do not because design teams use technical reports to document their projects, much as professional engineers do. The Axis Program therefore created a space in which students got experience with authentic genres of the field.

Because teaching engineering design is so labor- and time-intensive (Mr. Capello told me it took him 8-10 hours to grade each of the preliminary design reports), the Axis Program worked to keep its instructors invested in teaching and supporting their students’ projects. One strategy was to change up the design project occasionally. At the time of this study the program had recently introduced the over sand vehicle project, whereas previously the project had been to design a hovercraft. The program faculty decided to make the switch because, as Mr. Capello told me, they

...had been through it so many times that it was less interesting and novel and exciting for them to be supporting teams. I think they had more conceptions of what would work and what wouldn’t work before students even started the project.

A design curriculum had the same potential for engaging faculty that it had for students, and the program faculty recognized that, to maintain strong support for students, the project needed to be meaningful for them too. Mr. Capello indicated he would be more likely to offer thoughtful feedback on design reports if he were interested, and would be more open to students’ creative design ideas if he did not have preconceptions about what the product designs should look like.

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Course constraints on writing. While Team Design enabled students to get intensive writing experiences early in their major, the team projects limited individual students' writing development. Mr. Capello was aware of this constraint, and counted it as one of the biggest problems associated with his writing instruction in the course.

In Team Design students wrote the technical reports and planned for their oral presentations in teams, which was typical in the field: "That's the way I think a lot of engineering reports get written," Mr. Capello said. However, he had no requirements as to how much writing each student needed to contribute, which meant that the team's strongest writers typically wrote the reports. As a result, the weak or inexperienced writers who most needed the writing practice did not get it. While this custom created a teaching dilemma for Mr. Capello, he also explained that enlisting only the best writer(s) to write the report was common in industry. As he said,

...there's teams that I've worked on where someone is not a good writer, but they bring in another skillset, which is very valuable and it's ok. So I think in terms of getting high quality work done, it's important to figure out what are the strengths of the team, and make use of them.

He believed a team's practice of delegating certain tasks to the most qualified members was professionally authentic, but he understood that he was sacrificing individual students' writing development. "In terms of trying to develop all of our undergraduate students to be better writers... what we're doing doesn't necessarily lead us to that outcome."

In spite of this problem, Mr. Capello ultimately viewed "Team Design" to be an exemplary model. He believed the Axis Program was visionary in its design pedagogy, and that most schools of engineering "in the country would like to do it" too. He believed engineering students at EU did not get *enough* design experiences, and wished that

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students had more of this kind of curriculum in spite of the fact that it was expensive, “taxing on faculty,” and “time consuming.” He considered the weaknesses of the team approach to writing to be a worthy tradeoff for the innovative curriculum.

Cross-disciplinary coordination. Mr. Capello recognized that coordinating with other departments would support his writing instruction, but the institutional infrastructure inhibited cross-departmental relationships. For example, students in an engineering major were required to take a technical writing course at EU (the same course that had such a big impact on Mr. Capello when he was a student). But students did not take the technical writing course until their junior year, and Team Design was a first-year course, which meant that Team Design students would not profit from that writing instruction until later in their majors. To the chagrin of Mr. Capello, none of the faculty in the school of engineering had “a very good sense of what happens” in that technical writing course, and therefore could not know if the school of engineering and the English department were providing consistent, mutually reinforcing writing instruction.

He told me that engineering’s cross-disciplinary relationships with math and science fields were much stronger than they were with the English and Communication departments. He said “we try to sync our material” with “math and physics and chemistry,” but “we’re [not] quite thinking about English yet.” Mr. Capello had imagined possibilities for establishing a bridge between the Axis Program and the English department, and he cited an example at the University of Michigan, where a 100-level design course similar to Team Design had “actually integrated” with a composition course, which enabled students to “receive essentially their English credit and their

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engineering design credit in the same space.” Mr. Capello imagined that a collaboration with those who have expertise in teaching writing would enable faculty in both departments to better fulfill “major outcomes” of writing in engineering.

Mr. Capello told me about a failed program initiative for cross-disciplinary coordination. He said that a few years prior EU had developed an oral communications requirement as a part of its general education program. Mr. Capello described the Axis Program’s plans to beef up the oral communications-related assignments in Team Design and add a credit to the course to reflect its fulfillment of that general education requirement. Specifically, they “were looking at having a one credit seminar in the sophomore year, and then in the Capstone [a senior-level design course] adding one more credit for oral communications and really trying to stress the presentations.” These plans fell through, however, for budgetary reasons. He told me, the “money from administration did not come through to allow that to happen. Otherwise it would have.” While this failed effort was not wholly related to Team Design, the example demonstrates that such factors as financial support from EU’s central administration had a meaningful influence on Mr. Capello’s literacy instruction.

Summary. Mr. Capello was proud of how the Axis Program made high-level writing experiences possible for students through its design-based curriculum. Yet his explanations of the limitations of the team-writing experience show that the curriculum’s positive attributes (experiential learning through design, professionally authentic genres) involved some trade-offs (low accountability for some writers). He told me that his writing instruction suffered as a result of these trade-offs. Mr. Capello believed better communication among disciplines, including a joint writing course between the Axis

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Program and the English department, might have addressed his limitations as a writing instructor, but budgetary and institutional roadblocks prevented such coordination.

Summary of Key Findings

This section first summarizes the key findings that address the study's first research question about participants' approaches to writing instruction. Then it explains how the conceptual framework's factors and the emergent factor shape those approaches.

Approaches to Writing Instruction

A primary finding of Mr. Capello's case is that he approached writing instruction as instrumental to career preparation. He used technical design reports and oral presentations to prepare students for the specialized skills of industry. His discussion of industry demands was ever-present in class discussions of assignment specifications and goals, and he emphasized many of the technical report's peripheral genres (like schematics and drawings) and activities (like team writing) because he viewed them as indispensable workplace skills. His instrumental approach was also evident in his emphasis on grammatical and mathematical correctness, the formatting of engineering drawings, and the citation of sources. His positioning himself as a manager when assessing students' work, and his bringing in faculty evaluators to simulate employers even higher up in the hypothetical engineering firm further reinforced his approach.

A second finding is that, while Mr. Capello characterized writing in distinctly instrumental terms, he also viewed writing as a tool for building intrinsic understanding of the engineering design process. He considered the technical report, a professional form, to be a tool for getting students to learn and think in ways that Mr. Capello believed transcended vocational purposes. He highlighted the importance of narrative quality and

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cohesion in the reports, and asked students to incorporate an analysis of design decisions (good and bad) into the report. His emphasis on these writing and thinking strategies revealed his value for writing as a process of sense-making as well as a tool for recording information. By framing himself as a peer-colleague for some of the students' initial Milestone assignments, he demonstrated he wanted to support students as they learned to participate in the design process.

Factors Shaping Writing Instruction

All factors of the orienting conceptual framework had an influence on Mr. Capello's writing instruction. His academic biography helps explain why he wanted to create the technically rigorous, professionally authentic experience for his students that he did not have as an engineering student. He sought to furnish students with fundamental engineering knowledge so they would be able to create functional design products. But in addition to a working final product, he wanted his students to experience the intrinsically "exciting" process of design. His goals for creating an exciting and meaningful experience for students echo his own experiences as a student of his formative aerospace engineering and writing professors.

Mr. Capello's disciplinary identity informed his writing instruction in that the Team Design assignments embodied the applied nature of engineering knowledge. Students enacted the problem-solving process through their production of technical reports by employing abstract mathematical and scientific principles to solve design problems. Mr. Capello's guidance and feedback on student writing was particularly attentive to details and conventions inherent in engineering communication.

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Mr. Capello's educational ideology appears to shape both strands of the approaches to writing instruction that I have described above. He had a distinctly instrumentalist view that college should prepare students for their future careers; his use of the engineering field's standard genre of technical reports clearly mirrored that view. Though he aimed to prepare his students for their careers, he did not take an exclusively skills-based view of professional training. Rather than treating writing and communication simply as a collection of static skills, he considered that he could use these tools to teach students to think like engineering designers and to develop a sense of their role as engineers.

Departmental norms played a mixed role in Mr. Capello's writing instruction. The Axis Program facilitated Mr. Capello's aims of creating a hands-on, professionally authentic design project for students, and therefore supported his instrumental approach. However, because team writing is authentic to industry, design teams wrote their reports collectively, which enabled some students to avoid writing altogether. The Axis Program's use of team writing therefore inhibited Mr. Capello's desire to use writing as a means to individual students' learning.

CHAPTER 7: THE CASE OF PROFESSOR BERNARD PESEK

Dr. Bernard Pesek has been an associate professor of Mechanical Engineering at EU since 1978. He earned a Bachelor of Science degree in Aerospace Engineering in 1971, at Iowa State University, and in 1973, a Master of Science degree in Nuclear Engineering at the University of Missouri. Before returning to the University of Missouri for his PhD in Nuclear Engineering, he worked in industry for two years, first in power plant system design for an engineering firm in Boston, and then as a startup test engineer at a nuclear plant outside Pittsburgh. He earned his PhD in 1978 and has been at EU ever since. In addition to teaching in the Mechanical Engineering department, Professor Pesek taught in the Axis Program, a program dedicated to introducing first and second year engineering students to the profession of engineering through high quality teaching and experiential learning.

During the Fall, 2014 semester Dr. Pesek taught two courses. Both courses had multiple sections—Introduction to Mechanics had five, and Product Development had six. Both courses used a standardized syllabus across sections. Introduction to Mechanics (hereafter called “Mechanics”) was a 100-level Axis Program course that Dr. Pesek had taught more than ten times (he “can’t recall the exact number”). The course, required of Aerospace, Bio-, Civil, Materials, and Mechanical Engineering majors, was devoted to the study of stationary physical bodies subjected to different kinds of force. The course objectives outlined in the syllabus pertained mostly to the transmission of mechanics-related content. The list included topics like, “Scalar and vector methods applied to forces and moments,” and “Centroids and moments of inertia for plane areas.” The first item on the list, however, was not about content, but about the process of engineering problem

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solving and design: “Engineering problem formulation, organization, and solution methodologies.”

Traditional lecture was scheduled twice a week, and recitation (the sciences’ equivalent to discussion section) took place once a week. In the first part of the semester, recitation consisted “of problem solving, discussing homework solutions, and providing interactive classroom demonstrations;” during the second part of the semester students were expected to use the recitation period to hold team meetings and do the work necessary to complete a team-based design project.

The other course Dr. Pesek taught, Product Development, was a 400-level course for seniors in mechanical engineering. Dr. Pesek was teaching it for the sixth time. The course introduced students to the “mechanical design process,” which, according to the syllabus, involves some of the following steps:

- “the articulation of a physical artifact to satisfy a particular need”
- the determination of “customer (user) requirements and product characteristics”
- the generation of “an initial design specification”
- the development of a detailed plan “that clearly shows how the design will be produced”

Students in Product Development joined teams of five or six and selected a “design challenge of their choosing,” which they completed and reported on through a series of written assignments, described below.

Approaches to Writing

Here I construct a portrait of Professor Pesek's approaches to writing instruction through a description of the writing assignments in his courses, his goals and strategies in teaching writing, and his approaches to feedback and assessment.

Writing Assignments

The introductory mechanics course placed a low premium on writing, while Product Development was comparatively writing-heavy. Though he assigned a number of reports in Product Development, I will demonstrate that Dr. Pesek's product-oriented approach to writing conflicted with his emphasis on the process-orientation to engineering design.

Introduction to Mechanics. As a part of the group design project, which was worth 10% of the course grade and consisted of “designing, analyzing, building, and testing” a truss, students were required to write a “design report” that contained “analyses of the structure.” The syllabus characterizes the report as one of the “deliverables” of the project—a term commonly used in industry. An assignment prompt for the project, entitled “Truss Project Specifications,” contained extensive instructions about the kinds of materials students should use for the truss, and the specifications they should adhere to. The description of the report itself, however, was very brief. Aside from the list of sections the report was to include, the only other guidance was that the report should be typed and the calculations and drawings should be computer-generated. The report's required sections resembled a typical outline for a technical report:

- Cover page (including team designation, names of all members, and class information)
- Table of contents (including page numbers and students responsible for each report section)

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- Introduction, summarizing the scope of the project
- Experimental material property data and calculations (i.e. wood & glue test results)
- Technical engineering drawings of truss design and member cross-sections
- Calculation of support reactions
- Calculation of internal force, normal stress, and safety factor in each truss member
- Buckling calculations and safety factors for all compressive members
- Calculation of shear forces, shear stresses, and safety factors at each joint
- Prediction of maximum load, strength-to-weight ratio, and failure type/location (prior to testing)
- Test results (including experimental load-deflection curve, actual strength-to-weight ratio, and actual failure type/location)
- Discussion of results (including reasons for the difference between predicted and actual failure)
- Conclusions & recommendations for improvements to the design

According to Dr. Pesek, the report was very insignificant in the context of the course, and was meant as an after-the-fact documentation of project results. As he told me,

Again, in the statics⁵ course, the report is a very, very small part of it. It's just something—the students build something, and they test it, and they have to write a report. It's relatively minimal, it's very, very quick that they have to do it. And there's no time—there's really no time for any iterations whatsoever. They actually hand it in on the last day of class, and they did the testing the previous Friday, something like that.

Students turned in the report on the last day of class, but Dr. Pesek never handed it back, and so students did not receive feedback on it.

Product Development. The senior-level design course is comparatively writing intensive. Teams had to produce three reports related to their design: “Interim Project Report 1,” “Interim Project Report 2,” and the “Final Project Report.” These were technical reports that explained the product's design details; each iteration contained an update on the results of the project as it progressed. The final report contained the

⁵ Statics is a branch of mechanics; Professor Pesek used the two terms interchangeably.

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completed project results, and had a conclusion section that required students to summarize results, to make recommendations about how to ready the product for commercialization, and to reflect on the “strengths and weaknesses of the design process your team followed” (assignment prompt). Dr. Pesek explained that each report led to the next one: “Report 1... leads directly into 2, which leads directly into the Final Report.”

Individuals and teams also had other short writing assignments that fed into and supported the formal technical reports. One of these was called a “Teamwork Essay.” For that assignment students were required to “Write a 500 word, or a thousand words, on your worst team experience.” Dr. Pesek told me that Mechanics instructors assign the Teamwork Essay “because we want them to think about [that experience], and not do it again.” Students also had to write a “Team Contract,” which was a collectively agreed upon set of stipulations about how students planned to operate effectively as a team. Dr. Pesek distributed a template of the Team Contract, which contained lists of team members’ commitments, and reinforced the discipline’s orientation to teamwork. The contract included such commitments as, “We will be diligent in attending team meetings. If an absence is unavoidable, notice will be given promptly,” and “We will all be contributors to the team.” Finally, the “Ethics Essay” asked students to “apply knowledge of engineering ethics” to the real-life event of the 2010 Deepwater Horizon oil spill in the Gulf of Mexico. The Teamwork Essay, Team Contract, and Ethics Essay were academic genres—that is, genres whose form and purpose were specific to an educational context—that purported to build students’ knowledge about the nature of work in engineering.

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The design reports are noteworthy in that much of their content was oriented toward the product's commercial potential. Teams were required to discuss (hypothetical) customer requirements, to describe problems with an existing similar product, and to do a market analysis that explained the "general need for [the] product" (prompt). The reports also required teams to include a House of Quality (HOQ), a diagram that shows how particular aspects of a product meet the demands of the customer; an extensive explanation of design details; an explanation of the prototype and how the prototype was tested; an explanation of manufacturing details and costs; and the conclusion. Reports were graded on "professionalism," or "writing clarity, narrative and visual formatting, grammar, use of appropriate citation style."

At the end of the semester, teams from all six sections of Product Development came together to formally present their products at Design Day, an event similar to a conference poster session. Teams brought their product prototypes, set up posters explaining the product and the design process, and made "short presentations to faculty judges" and other visitors.

I spoke to Dr. Pesek the afternoon after Design Day took place and I asked him how it went. In his response he talked about how the students seemed to enjoy the occasion because it provided them a formal, pseudo-professional context for sharing their work. He told me,

It went well. I mean it's a chance for the kids to show off. I mean they're proud of what they've done, and they get to demonstrate it not just to faculty—and when I say faculty I mean not just the instructor of their particular section, but also there's visitors, we have guest judges coming from outside, and we have other faculty members from the department participate and judge, and so on. So it's a nice culmination to their engineering education.

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Dr. Pesek went on to say that Design Day was superior to a more traditional classroom-based oral presentation, because a classroom presentation would merely echo the report's content before an audience of classmates, which would provide less incentive to teams to develop and practice a professional presentation. He implied that Design Day raised the stakes of teams' presentations—like a conference poster session, teams presented to friends and strangers alike, including industry professionals. In his words,

I also think it's much better this way, where they have a poster and they have a prototype and then they talk about what they've done and so on. Because a presentation basically is just their final report, and this goes further than that in the sense that they've got to communicate the effort of what they've done to people not only that are intimately familiar, like the instructor of the section, but also to guests. And [the poster is a] presentation in the sense that they have to go through in five, six, seven minutes what the entire process was, what they started with and where they got to, where they ended up. So I think it's a better format than to just make a presentation for a half hour or something like that.

Orientation to organization and process. Writing and other course assignments came with detailed specifications, and this guidance provides some insight about the knowledge values of engineering and the priorities of technical writing. As Dr. Pesek indicated, detailed, precise formatting and organization was a textual manifestation of the importance of systematic thinking in engineering design. As the assignment prompts in both courses showed, technical reports were to be arranged according to certain sections, in a certain order. As I showed above, the content specifications made up the majority of each writing assignment prompt (with brief mentions of style and clarity, but no discussion about how appropriate style could be achieved).

Design Day presentations were also highly specified. The rigid organization of the poster, he told me, helped teams demonstrate the “specific steps along the design process, from where the idea came from, or what their product is going to do, all the way to the

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end.” Students were required to make their posters based on a template, which resembled that of a standard scientific presentation, with typical sections devoted to “objectives, and preliminary designs,” and the like. Dr. Pesek said that “it’s up to them to figure out what goes in each one of these sections,” but “they can’t change the template.”

Even the low-stakes problem set assignments had strict specifications. These guidelines included instructions on “Basic Format,” which described the kinds of paper and pencil students should use, and what headings should be included. Each problem was to include a “concise (re)statement of the problem,” an explanation of their strategies for solving the problem algebraically, and a depiction their numerical answers. These homework-problem guidelines run 580 words, or nearly a full, single-spaced page.

Dr. Pesek explained that detailed organization and formatting guidelines helped students to get in the habit of systematizing their thinking. As he was fond of telling me, “A solution is not a design,” and “results are not analysis.” He explained that engineers are inherent problem-solvers, but “jump[ing] over everything to get to the solution” disregards the essential thinking that led up to the solution. For example, in the homework problem-sets, if students did not display their process, an incorrect answer could be attributable to anything from a small unit error to a grand misunderstanding “about what this problem actually is.” The TA grading the problem set would not know the extent of the error unless the student showed all of his or her work. A correct answer is valuable, but even more so are the steps that lead up to the correct answer.

The display of systematic thinking, Dr. Pesek explained, helped students to get in the habit of thinking beyond mere results, which was a key attribute of engineering design. The technical report was a useful medium for communicating systematic analysis,

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in part because the report's sections guided students as to which steps they needed to address. As Dr. Pesek told me,

The result is, "We loaded it with 500 pounds and it broke. Here. That's the result." And I said, "That's not analysis. Why did it break? Why did you think it broke? Where did you think it was going to break?" And so on. So that's a big part of the feedback that we give to the students.

The steps of analysis were most important when it came to the design project in Product Development, because the project had a rhetorical purpose beyond that of mechanical analysis for its own sake: it needed to be able to persuade prospective investors and the public at large that the product was valuable and necessary. The reports therefore oriented students to the marketplace, where the completeness of the report could mean the difference between commercial success or failure. In Professor Pesek's words,

[T]hose are some of the critical issues, that they really have to write and show that they have done what needs to be done along the entire process, you know, right at the beginning from getting marketing data—because ostensibly they're designing a product that they're going to sell, or possibly sell. So if there's a market for the thing—could be the best thing since sliced bread, but if there's no market for it, then it makes no sense to do it. So I mean they really have to write, and show that they have done all of these things—not only that they've done them, but also interpreted what they've done, and so on. So that's a big part of it. And that's not easy sometimes, because again, engineers, we tend to, "That's the problem? Here's how we solve it." They jump over everything to get to the solution.

Assignments' strict guidance about organization and formatting reveals a value for the standardized display of systematic thinking. That display serves to explain and justify design decisions, which in turn can persuade readers of a product's usefulness and marketability.

Summary. The truss report in Mechanics differed from the Product Development design reports in a number of ways. It was significantly lower stakes than the design reports—students turned it in the last day of class, they received no feedback on the

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assignment, and it was worth very little of their grade (less than 10%). It was the only writing assignment in the course, whereas Product Development contained a number of written assignments that, in sum, accounted for nearly half of the course grade. That sequence began with the scaffolding, academic genres of the teamwork and ethics essays, and culminated in the more formal technical reports and poster presentations.

That writing played a significantly lesser role in the introductory course indicated writing served a formalistic, professionalizing purpose in engineering. Product Development students were seniors, and their design projects represented the “culmination to their engineering education.” Soon before they entered industry, they were immersed in the requisite written genres of the field. The paucity of writing in the introductory course indicates that Dr. Pesek did not view writing as an integral tool for learning in engineering, but as a *display* of knowledge. Dr. Pesek may have asked the more advanced students to write more than first-year students because they were closer to the professional contexts where they would be using the technical writing genres. An analysis of Dr. Pesek’s goals and strategies for teaching writing will shed more light on these ideas.

Instructional Goals and Strategies

Professor Pesek believed technical writing to be non-rhetorical and purely informational, and did not have strong goals or strategies for teaching it to his students. He viewed writing as a skill that students would need because it would serve communication purposes in the profession, but he did not appear to consider that the act of writing was in itself conducive to learning. For that reason he scarcely addressed it in his lower level course. Though he assigned more of it to seniors who were on the verge of

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entering the profession, his approach to teaching it consisted mostly of providing specifications for report content and organization.

Minimal goals for first-year students. Dr. Pesek assigned only one small writing assignment in Mechanics, and provided very little guidance for that assignment. He had minimal writing goals for the writing students submitted in that course, but argued that writing was only secondary to, and separate from, the actual truss project itself:

I won't say [writing is] a side issue because it's not, because we want them to build—to do the design, and building and testing of the truss, and also to get the experience of writing the report. But it's not a major focus of the course, not like in Team Design. In Team Design, they're doing the design and then also the presentation, so it's a big part of it.

Here Dr. Pesek referred to the first-year design course in the Axis Program, taught by Jason Capello (the subject of this study's other engineering case). Team Design was a unique first-year engineering course in that it was a design course and that it assigned a number of written reports and oral presentations. Dr. Pesek indicated that he did not need to approach writing as intensively in Mechanics. He told me that he had low expectations of his Mechanics students' writing, and that those expectations were usually fulfilled. As he told me,

I don't expect much from a writing perspective. And I don't typically get much [chuckling]. Even then, they know—and we give them, we don't give them as detailed a rubric, but we tell them that this is what you have to put in there: the introduction, and then this, and then that, and then that, and that and that and that.

Professor Pesek referred here to the report's specifications, and the comment suggests that guidance regarding content was all he needed to provide for students at that level. He suggested that his students' low level of writing skill relieved him of responsibility for more in-depth instruction beyond organization requirements.

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The following comment further demonstrates Dr. Pesek's view that students' academic level is the greatest predictor of their writing ability, and that his own instruction is irrelevant. After completing writing assignments through the course of their major, students naturally developed skill through experience. Dr. Pesek's low expectations indicated he believed his students' writing skills obviated the need for writing instruction:

They're freshmen. So they don't have the experience... This is really kind of the first—one of the first experiences or opportunities they've had to write a technical—something technical. And they're not really sure how to do it. But by the time they are seniors, they know how to do it because they've been doing it throughout, and they've been getting the feedback and so on and so forth. And it culminates, like you said, in the 400 level—in the senior-level design course.

Goals for professionalization. His skill-based view of writing was reinforced by his view that students were learning to write for the profession. Engineering is an applied discipline, and so it is unsurprising that Professor Pesek alluded to, or explicitly discussed, an engineering career often when he spoke about writing and the team projects. One of his primary goals, for example, in using primarily team-based assignments was to simulate the modes in which engineers work. He achieved that goal by assigning both professional genres (technical reports are commonly produced in industry) and academic genres. The Teamwork Essay is one example of an academic genre that was meant to provide scaffolding to professional genres. Professional engineers do not write such essays, but the exercise was meant to provide students with the metacognitive awareness of what it means to be an engineer, and to prepare them for the professional context.

Another example of scaffolding for professionalization was the peer evaluation. Team members were required to complete them after each report they submitted in

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Product Development. Dr. Pesek told me that peer evaluations provided an incentive to each student to fulfill his or her team responsibilities. Though the repercussions for poor performance differed between academia and industry, Dr. Pesek used the peer evaluations to underscore the importance of fulfilling one's responsibilities in a team context:

I mean they know when they get out [into industry] they're not going to [do peer evaluations], but they do know the repercussions if they don't do a good job on the team. Repercussions here are a lousy grade; the repercussions outside, you get fired. In fact there's one—I had one really dysfunctional team. “Dysfunctional” meaning one person in the team and I told that person, I said, “If this was out in industry and you started doing what you do, and you did what you're doing in this team, if I was your boss, I'd fire you.” I didn't say, “I'd give you a bad evaluation, I wouldn't give you a good raise.” I said, “I'd fire you.” Because that's what would happen. I've seen it happen.

A small portion of the grade for the technical report was awarded based on what Dr. Pesek characterized as “professionalism,” or “writing clarity, narrative and visual formatting, grammar, use of appropriate citation style and in text referencing.” This component of the grade was only 10% for each report, but I would argue that mechanics was far from the only professionalizing factor: the reports were produced on teams, they documented the design of a potentially marketable product, and they adhered to formal conventions of technical reports produced in the field.

Professor Pesek otherwise sought to professionalize his students when he brought a fellow faculty member in to Product Development to present on “business plans and entrepreneurship.” That guest speaker highlighted the importance of a well-written report when engineers seek capital investment in their product ideas. Dr. Pesek said the guest speaker told students,

“The guys with the money—that's the venture capitalist—he'll take a look. You know, maybe read the first paragraph, the executive summary or whatever it is.”

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And he said, “If you don’t do a good job with that, he’s going to take this and just dump it in the trash.” Because he’s got a stack of these things on his desk, and he’s not going to waste his time. I mean, so there’s an incentive to being able to do it right.

As I wrote above, Dr. Pesek said the design reports were meant to help students better understand the “product development process,” but based on these excerpts, Dr. Pesek’s goals for understanding appear not to be intrinsic (i.e., learning for its own sake) but were instrumental to career preparation.

At the end of the course (and of the Mechanical Engineering major), Design Day represented a bridge from academia to industry. The event gave students the opportunity to practice presenting in a professional atmosphere, with actual industry professionals present to hear teams’ pitches and assess their work. He told me, “I think it’s a good experience, and it’s something that they’re going to do. You know, they’re going to make presentations throughout their entire career.”

Emphasis on content: “The students know what to do.” One of Professor Pesek’s teaching strategies was to frame his written assignments primarily in terms of the content they contained. He appeared to believe that the rhetorical effectiveness of technical writing lay in the completeness of its information, and was unrelated to language or style. In fact, as he saw it, the best technical writing was completely free of style, and consisted of pure, unfettered information. Perhaps because he believed the best writing style is an absence of style, Dr. Pesek viewed writing instruction as a matter of communicating content and structure requirements. As long as students knew what information was to be presented, then that was all they needed to know about the writing assignment. Dr. Pesek told me a number of times that students knew what they needed to

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include, and his repetition of the “what” of assignments reiterates his emphasis on content:

Well, again, each one of the sections, the students know *what* needs to be in there. If they don't do something that needs to be in there... or if they don't do it complete enough, I tell them that.

But they know that—I think I mentioned this before—they know *what* they need to put in there. And they not only know the content but they know how many points each one of these is worth, so it makes it easy. “Easy.” That word is in quotes. It makes it easy for them to write the report because they know having it kind of laid out for them in detail—they always know *what* needs to be in there, but if you lay out exactly *what* needs to go where, then it makes it easier for them to write it and it certainly makes it easier for us to grade it.

I guess what I'm saying is no matter what the *information* is, they have to be able in the course of a page, two pages, ten pages, to be able to get that *information* across. And it doesn't make any difference I guess if it's technical or non-technical. The *information* has to be there [emphasis added in all excerpts].

These passages reveal Dr. Pesek's clear view that the quality of writing is determined by the presence of information in the correct order. By saying more than once that the students already knew what to do, he echoed his view that writing was a skill students naturally picked up over time. He indicated not only that the content was the only thing that mattered in the report, but also that his explanation of the required sections in the assignment prompts and syllabus were sufficient instruction.

Dr. Pesek's belief that technical writing should be devoid of style, was, as he saw it, unique to the discipline. As he told me,

B.P.: So, engineers are different [chuckling].

M.C.: What do you mean by that?

G.P.: Well we don't—in their writing. Because they're writing technical things, and I think that's it. When you're presenting a design, a design is a design, and the results are what the results are, and the analysis is what the analysis is, and so on. So there's not a lot of flowery language that needs to go in there.

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Dr. Pesek believed that project results, when unadulterated by any “flowery language,” could be nothing other than themselves. His view was a common view of writing in the sciences, according to Bazerman (1988), who writes that “to write science is commonly thought not to write at all, just simply to record the natural facts” (p. 14). Dr. Pesek claimed that students were inappropriately stylistic most often in the introductions to their technical reports, and he attempted to steer them back to a purely informational approach. He said,

One of the big things they have problems with is the introduction. They just—sometimes they just write it as an English 101 essay. You know, just kind of a *novelte*, something like that [emphasis in original].

Because the introduction—I make that comment in a number of cases. I say, “This is an English 101 essay”... And that’s not what it is; the introduction is really an executive summary. Everything that’s in the body of the report is sitting right there in the introduction, so the person that reads the introduction knows what he’s going to see back here, and obviously in much more detail, and includes the results. Because a lot of times people forget that—they say, “Well we did this, we designed this, we did that and so on,” but they don’t put the results in. But that belongs in the introduction too, and I think that’s a hard thing for them to kind of realize. So that’s where I see most of the non-technical stuff. It’s still quasi-technical but there’s still too much flourishing.

Telling students what to include and what not to include, content-wise, was to Dr. Pesek a sufficient method for teaching technical writing. He prohibited “flourishing,” but did not provide instruction on what the style of technical writing *should* be.

Summary. Dr. Pesek characterized his Mechanics students’ truss report as a “knowledge-telling” exercise, which is to say that he viewed it as a recording of information (Bryson & Scardamalia, 1991), and he implied that because his students’ lack the skill to write, he did not emphasize writing in the course. Dr. Pesek considered his seniors capable of producing a more sophisticated sequence of texts that documented the “product development process.” However, as his comments and specifications-laden

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assignments showed, he approached writing assignments in both courses as assemblages of information. By dint of their respective levels of experience, Professor Pesek viewed his first-year students as novice writers and his fourth-year students as more advanced, but did not consider that his instruction had done much to alter his students' natural progression.

Feedback and Assessment

Professor Pesek created high-stakes writing experiences for his seniors in part by providing extensive feedback and incorporating evaluations from a variety of people, in and out of the department. Feedback on his first-year students' work, however, was virtually non-existent. Dr. Pesek's varying feedback practices further confirm his differentiated approaches to writing in his two courses.

Assessment practices. Because Mechanics students turned in the truss project report on the last day of class, Dr. Pesek did not return the report to students after grading it. He characterized the report as "minimal," "very, very quick," and "very, very small," so though he did not explain his approach to grading the report, one can surmise that he did not do so thoroughly or extensively. Because he knew his students would not see it again, it is unlikely he offered them any feedback.

Dr. Pesek's feedback on the Product Design reports was more extensive. He shared the reports' rubrics with me and he explained that in addition to filling out rubrics he wrote "more extensive statements and comments" in the margins of the reports. The rubric is presented in a table, with the criteria for assessment in boxes on the left exactly matching the specifications required in the assignment. Next to each criterion are boxes

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with the score options “Falls Short,” “Meets (~80%),” and “Exceeds,” along with another box in which Dr. Pesek could write a qualitative response.

The way Dr. Pesek described his assessment of students’ work echoed his emphasis on content. Because we met soon after he graded them, I asked Dr. Pesek how students did on the first interim report for Product Development, and he characterized the reports’ quality in terms of how complete they were. He told me that one team that did not score as well as the others because they did not do “what was needed.” In his words,

The reports—there was five of them—they ranged from I think really, really—they did a really good job, a really complete job, and very high grade to a—I think they got a 96 or something out of it, to a grade that was like a 79 because they didn’t do what was needed.

His regular abstract reference to the “what” of students’ papers is in line with Dr. Pesek’s contention that the best, or most effective, engineering writing is devoid of style—that it is sheer content stripped bare.

However, in spite of his evidently strong belief that “flowery” language should be banished from technical writing, he said that he did not take a hard stance on all aspects of style, which indicated he was aware of the rhetorical implications of technical writing style. Passive voice is the norm in engineering writing, but as he told me,

I always get asked this question—no personal pronouns. So, no “I did this” or “We did that” or something like that. I guess that’s still true, they shouldn’t do that, but it’s a little bit awkward if they say, “It was done.” Right? If they put it in the passive voice it’s a little bit awkward to write—

M.C.: So you don’t come down hard on that?

B.P.: I don’t come down hard on that. Maybe I should, but still—it’s—I understand that.

Whether Dr. Pesek considered that his students’ use of active voice qualified as “flourishing” is unclear. Nonetheless, his comment reveals a flexibility that was not

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reflected in many of his other comments about the necessary plainness of technical writing.

Varying levels of feedback. Based on his comment that “I don’t know that I teach them how to write, because I don’t think I do. But rather we provide the feedback...,” it seems Professor Pesek considered that most of his writing instruction came in the form of feedback on student work. However, the amount of feedback he provided during the teams’ design process as compared with his specifications-oriented feedback on writing assignments illuminates our understanding that he thought writing was not an integral element of the learning process.

He looked to strike a balance between offering plenty of helpful feedback to Product Development students as they planned their projects, and not being too controlling about their decisions. He told me that he wished he had more time at the start of the semester so teams would have more time to ruminate and bounce ideas off him. He explained that one team had come up with an idea for harnessing energy from vehicles that were coming to a stop (such as a train arriving at a station, or a plane landing on an aircraft carrier), and had struggled with refining their idea to a point where it was actually feasible. By the time they did, the team had a relatively short window to put together their design and prototype. Dr. Pesek therefore intended to try to build in more planning and feedback time the following semester:

I think having an additional—some more feedback right at the beginning, but still maintain the—because they only have 12 weeks. You can’t do anything about that—but still maintain the requirements of the deadlines for the reports. In other words, don’t push those back a week. So and that’s what I’m going to try to do I think next semester, is to get that one little bit of extra feedback in there.

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While Dr. Pesek wanted to be available to provide the necessary time and feedback to teams, he also deliberately remained hands-off in his guidance. As the following comment indicates, he wanted teams to make their own discoveries and learn from their mistakes, because discovery was an important part of the product development process:

But I have to be careful in the sense that I can't tell them, "Well this is the way—consider doing it this way, consider doing it that way," or something like that. Because that's another thing I don't want to do.

This passage is enlightening, considering how strictly he *does* tell students what to do as they construct their technical reports. Whereas Dr. Pesek claims "students know what needs to be in" their technical reports, he takes a comparatively nuanced approach to feedback during the design process, prior to the report-writing stage. As students developed their ideas, he wanted to balance his availability for brainstorming with letting his students make discoveries on their own. The absence of this approach to feedback on students' writing indicates he did not believe students developed ideas during the writing process. Rather, the reports served to document those ideas after the fact.

Use of multiple evaluators. Dr. Pesek used multiple evaluators to assess student work. These evaluators ran the spectrum in terms of stature, and ranged from peer evaluators to industry professionals. Asking different people of different positions to evaluate student work exposed students to higher stakes, gave them practice performing under pressure, and reinforced Professor Pesek's goals for professionalization. A system of peer evaluations furthermore held students accountable to themselves and their teams.

Dr. Pesek built in a few mechanisms for ensuring student accountability with each Product Development report. One of the requirements for each report, for example, was

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called a “Group Signoff Sheet,” and was a sworn statement that each student participated in the House of Quality (a diagram linking product features with customer demands), and that all members approved of the results so far. Each team member also had to complete a self- and peer-evaluation to accompany each version of the report. The peer evaluations were collectively worth 20% of each student’s course grade, which gives some indication of their importance. Dr. Pesek said that students did a “semi-peer evaluation” in Mechanics as well, though it was “not to that level, not to that extent” of the evaluations in Product Development.

Design Day was meant to help professionalize students by bringing in evaluators from the school of engineering and from out in industry. The event was open to the public, so anyone could stop by any team’s poster and ask for more information. The Product Development faculty documented visitors’ feedback and created the People’s Choice Award so that “somebody coming in from outside and just looking around, seeing things, and saying that’s really cool” could have some kind of influence on the teams’ products. External visitors determined the recipient of this award based purely on “cosmetic” aspects of the design. The award had nothing to do with the grades students received, yet it provided some incentive for students to develop a product, a poster, and a presentation that was appealing to lay people.

Some visitors were invited to fill out a “short form,” which provided a brief assessment of each project. These assessors consisted of volunteer faculty members, recent graduates from the program who “are out in industry,” and other “guest judges that come in from industry.” Short form feedback was meant to be purely constructive in nature; like the People’s Choice Award, short form feedback did not inform teams’

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grades. Dr. Pesek claimed that it would not be fair to let industry professionals' feedback shape students' grades, because these professionals have different backgrounds, sets of expertise, and values. At the same time, it was precisely these varied backgrounds that were valuable; Dr. Pesek claimed that giving students "feedback from somebody else" aside from Product Development faculty was profitable for students.

"Long form judges" did have an impact on each team's grade. Each section instructor was a long form judge for the teams in his section, and then each team had one to two other judges, who were either a "faculty member or a very qualified person from outside." Dr. Pesek took the completed long forms for each team design and synthesized the feedback into what would become the teams' final grades. This synthesis was, as Dr. Pesek described it to me, a careful process:

I won't simply average them. I'll look at them and make some adjustments and come up with a final grade. Because everybody grades differently and also somebody that's coming in and seeing a project for the first time and trying to get as much as possible in seven minutes or eight minutes—it's not the same as me, who has kind of lived with them the entire semester.

Summary. The use of multiple evaluators at Design Day echoes his approach to grading students' technical reports. He approached the technical reports and Design Day poster presentations as final products, which did not serve to extend but only to document the learning process. His assessment of these texts was therefore summative, and dealt primarily with whether or not teams met the required specifications. He reinforced this view to his students by increasing the stakes with external reviewers of the product presentations. His product-view of the writing assignments is further corroborated when we juxtapose his assessment of the reports with his approaches to feedback *prior* to the writing assignments. Contrary to Dr. Pesek's method for grading the technical reports,

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when students developed their project ideas, he was careful to facilitate a recursive, reflective, process of discovery.

Conclusion: Approaches to Writing Instruction

As Professor Pesek saw it, he taught writing retrospectively, i.e., through feedback. The only advance guidance he provided was specifications for content and organization. However, in Mechanics he did not actually provide any feedback on the lone writing assignment. When he did provide feedback on Product Development reports, his approach was to assess correctness and adherence to specifications. As one small example of this idea of retrospective writing instruction, Dr. Pesek told me that he is “picky” about the labeling of figures in a technical report, yet he did not instruct students about the formatting of figures in advance. Rather, he used feedback as the mechanism for correcting mis-labeled figures.

The limited guidance Dr. Pesek gave students in advance of their writing, taken in combination with his approach to feedback, confirms his claim that he did not explicitly teach his students to write. I argue, though, that approaching writing as he did through his assignments and his evaluation methods still modeled values about writing as a “final product” (Bergmann, 2000, p. 6) devoid of process or style. His view that the final product was the main purpose of the course (particularly for Product Development), and his use of multiple evaluators at the summative course event echo the goals of the engineering discipline: to develop products and solutions that address the problems of the world. Written texts serve those products and solutions.

Factors Influencing Approaches to Writing Instruction

This section of the case explores the extent to which Dr. Pesek's academic biography, disciplinary identity, and educational ideology shape his approaches to writing instruction. The case closes with a discussion of the influence of departmental and institutional expectations.

Academic Biography

The absence of formative literacy experiences in Dr. Pesek's schooling echoes in his approach to writing instruction. An exploration of his attraction to the discipline and his view of the role of teachers in engineering demonstrate that he was not exposed to much, if any, writing instruction as a student, and was not taught the importance of literacy in engineering writing. Because writing played an insignificant part in his development of disciplinary expertise, his academic biography helps to explain how Professor Pesek approached writing with his own students.

Attraction to the discipline. Professor Pesek was drawn from an early age to the math and science disciplines. His early immersion in a field that tends to regard literacy as insignificant (Baake, 2003), provides a likely explanation for his lack of formative writing experiences and tenuous relationship to literacy. He told me that his interest in engineering began when he was in grade school and he was first exposed to the NASA manned space program. "I can still remember the first Mercury flight," he told me. "It was 15 minutes... I still remember that, because they brought a TV into the classroom when I was in grade school." That moment "whetted" Dr. Pesek's interest in "airplanes and things like that, and space flight." He was also influenced, he told me, by his father,

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who was an architect at a “small remodeling company,” and who was “an engineer in that sense, I guess, building stuff and all the rest of that....”

Though I asked him about his own experiences, Dr. Pesek seemed unwilling or unused to speaking in a subjective voice, and he frequently reverted to speaking in generalizations about engineers. He told me that young people are often drawn to engineering as a result of their propensity for math and science. He told me that engineers also become attracted to the discipline because they are fulfilling family legacy. In his words, “[T]hey say, ‘I was good at math and science, I like math and science, I like solving problems, things like that.’ And then they couple that with, you know, ‘I knew somebody that was an engineer.’” Dr. Pesek fit this description: he had a passion for aeronautics, was good at science and math, and his father provided a model.

These interests and influences drew Dr. Pesek to aerospace engineering in college, where he continued to develop his interest in “space flight, and orbital mechanics, and things like that.” These formative experiences demonstrate Dr. Pesek’s early immersion into a technical field where writing and literacy did not play a major role.

Role of teachers and mentors in engineering. Dr. Pesek did not tell me about any individual teachers that had a strong influence on him, but when I asked him about his academic experience he spoke generally about the role of teachers in an engineering student’s training. Presumably some of the teachers in his life filled the roles Dr. Pesek describes here, but he did not say so explicitly. He did not suggest that instructors were responsible for creating formative literacy experiences for either undergraduate or graduate students.

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As he explained it, the instructor's role in the undergraduate's life is primarily to stimulate. The instructor is responsible for developing interest, or even passion, in the student. As he told me,

Yeah, I think that—at the undergraduate level I think the teachers—one of the things they have to do is whet your interest, and get you excited about areas, and certainly, at the lower level courses before you really get into your major—and it's probably not exclusive—I would think it's not exclusive to engineering—but in the lower level courses, either the general courses that you take, or the first course in your discipline, they're not necessarily all that exciting. Because you're learning the fundamentals. But the teachers, the faculty responsibility is to really get you interested. Maybe it isn't all that exciting and sometimes you wonder, why am I learning all this stuff, but as you get into the junior and senior level courses, then they have to really do a job and get you excited about a particular area.

What is interesting to note about this excerpt is how Dr. Pesek characterized lower level fundamentals courses. He told me that first-year courses are typically not “all that exciting,” but that instructors should start using junior and senior level courses as opportunities for getting students excited and developing their areas of interest. Dr. Pesek was an Axis Program instructor, and his course Mechanics was an Axis Program course. One of the primary goals of the program, according to its Associate Director Jason Capello, is to make lower level engineering courses more engaging and interesting so as to improve retention in the school of engineering. Dr. Pesek taught in the Axis Program and yet still believed that the first couple of years of an engineering degree were usually pretty bland for students. Even though his own professional role was meant to counteract that blandness, Dr. Pesek still held traditional beliefs about the nature of first- and second-year engineering education.

As a student moves into a graduate program (again, we can only infer with caution that Dr. Pesek's own experience mirrors his explanations), his relationship to

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faculty changes. Whereas in an undergraduate program faculty served to ignite students' interests, faculty now serve in more of a mentoring capacity to those students who have committed to the field. As he told me,

[Y]our adviser becomes—not a teacher, or more than a teacher, really becomes a mentor, and a friend, and really kind of—not pushes you, but helps you focus on what you're trying to do. So I think there's a distinction between what a faculty member does as a teacher in the undergraduate courses, and as an adviser in the graduate courses.

Dr. Pesek spoke about faculty as having a kind of match-making role; as advisers they were there to help facilitate a relationship between a graduate student and whatever niche he or she would end up specializing in. As he told me, "PhD work is really personal." Finding an area of interest is important, because if "you really aren't interested in doing this type of research, you're not going to do a good job, and it's not going to be enjoyable." The significance of the mentor's role, according to Dr. Pesek, does not appear to include mentorship about writing or literacy.

Minor literacy experience. Professor Pesek spoke rarely about being taught to write in his undergraduate or graduate careers. He described one experience that was strongly imprinted on his memory, but demonstrated that in spite of the visceral memory, the experience did not meaningfully impact his own teaching. This example demonstrates that though writing instruction played at least a small role in his experience as a student, that experience did not translate into his teaching. A handout Dr. Pesek received as an undergraduate was particularly vivid to him:

I remember when I was an undergraduate, when I was taking the lab courses, there was a document that was, "Writing Lab Reports for Aerospace Engineering." And it basically laid that out—it laid out, this is what needs to be there... In my head I can still see that document. Mimeographed! You're too young to know what mimeographed is [laughter]. You know what mimeographed is?

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M.C.: Yeah, it's like that purple-y...

B.P.: Yeah, yeah, yeah! That's it. Smell it? [Brings his hand to his nose and laughs] I still remember.

In spite of the fact that Dr. Pesek could still visualize, and even smell, that document, he did not provide a handout of general writing guidelines to his own students, and did not believe his colleagues did either. He told me that seniors

...don't need for me to tell them how to [write]. Now whether or not there is in some of the lower level courses, whether or not there is this kind of handbook for doing it... I get a lot of basic engineering or engineering education texts that talk about writing reports and so on. Whether we direct them to such, to those, I don't know, it's hard to say. I don't think we do.

This example shows that the literacy experiences one has as a student do not necessarily shape future teaching practices.

Summary. An attraction to space flight put Dr. Pesek on a trajectory toward engineering at a young age. His long exposure to the “hard-applied” sciences may have accounted for his tenuous relationship to literacy. His minimal approach to writing instruction appeared to echo his limited formative experiences with writing as a student. That is, because he could not call to mind any experiences where writing enhanced his learning, he did not use it as a tool for building his students' learning. Rather, he emphasized writing as a tool for documentation, and as a set of formal conventions students would need to know for their professions.

Disciplinary Identity

This section shows how Dr. Pesek's view of the engineering textbook reinforces his characterizations of the nature and purpose of engineering knowledge. Exploring his explanation of engineering texts helps us to understand his characterization of

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engineering knowledge as a means for problem-solving, and also illuminates how he teaches (and does not teach) the discourse of the field. Additionally, the data reveal that Dr. Pesek had a tenuous writing identity, and that this aspect of his disciplinary identity had no demonstrable influence on his writing instruction.

Disciplinary genres and knowledge values. The textbooks and technical reports in both Dr. Pesek's courses encapsulated one of the main values of the field: problem-solving. Textbooks are an ideal format for communicating engineering knowledge because the content is paired with extensive practice problems. They contain theoretical principles and formulas, but many of their pages are devoted to helping students practice problem-solving. Because the fundamental mathematical and scientific principles of engineering do not change, textbook content does not change very much. Rather, what changes with each edition is a textbook's practice problems. Because the principles of an engineering discipline (say, mechanics) are unchanging across texts and across time, the textbook's content does not determine its success as much as its effectiveness in helping students apply knowledge through hypothetical scenarios. As a result, Dr. Pesek told me, the best texts in the field are those that have been around the longest. In his words,

There's textbooks—probably the two I showed you have been around for the 10th, 11th, 12th edition. You know, I think in both cases the original author is no longer with us, so... There are still authors, but then the subsequent editions have been revised by faculty from other universities. But I think longevity makes a huge difference because they wouldn't be around if they're not good, and I can fully say that they are. In fact I could be—I can't remember back that far, but I might have used editions when *I* took the course. So longevity just doesn't mean, you know, just "out there." The only reason it exists is because it's good. It's good.

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Dr. Pesek praised textbooks that are accessible to students, and described the technologically advanced practice problem supplements that textbooks use to set themselves apart:

And what makes them good I think is that they present the information very well to the students, that they have good example problems, that the—and nowadays the publishers have all kinds of other resources for the students to use—you know, electronic resources out on the web and so forth. And that really has been a huge thing, a huge plus. So. From the student perspective, and from the faculty perspective too. Because then the students have the opportunity to [say], “Gee I really didn’t understand that, and I can read the book and I think I get it,” and they can go on and get some help basically. And that helps a lot. But like I said, the fact that the—this one, this is the 13th edition. Sometimes people—sometimes students think that authors write editions just so that they can sell new books or something like that, but that’s not true.

The electronic resources Dr. Pesek mentioned enable students to do more complex problem solving via computer software, to practice with popular industry software like MatLab, and to have access to digital images and animations that help aid comprehension.

Implicit in his defense of the longevity of textbooks was a value for the standardization of knowledge, and of teaching. Dr. Pesek considered that these unchanging principles must be taught the same across sections and instructors, just as they are presented the same by textbook authors. He therefore worked to guard against individualized approaches to engineering education:

Because with multiple sections each faculty—no matter what, each faculty has his or her own kind of unique way to present it, but we want to make sure that the subject, especially at these fundamental levels, that the subject matter, no matter which section you’re in, that when a student leaves he’s got the same subject matter.

Engineering as a means to systematic problem-solving. Though engineering is divided into a number of main branches (electrical, mechanical, civil, and chemical), and

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dozens of further subfields within those branches, Professor Pesek claimed that all of these disciplines and sub-disciplines share one main purpose: to solve problems. Dr.

Pesek was emphatic on this point, and told me that he often shared it with his students.

As he told me,

I would always tell [students], the most important word, or the more important, depending on how many words there are, the more important word is the word “engineering.” In your degree. Not “aerospace,” not “mechanical,” but “engineering.” Because engineering teaches you, like I said, it teaches you a way to solve problems. And that’s an aspect of it because you can find yourself five years, ten years down the road after you graduate, so far from where you expected to be. Up in management doing this, or doing something else, but it’s still that problem solving ability that is I think an important aspect of it. In engineering education, anyway.

He claimed that the process of problem-solving is more important than the solution itself, and that exemplary textbooks modeled systematic thinking behind solutions:

[T]he best solution manuals do exactly that. They’ll really lay it out—this is what I know—not in those exact words, but this is what I know, this is the question that’s being asked, what do I need to do to get to the answers that answer these particular questions.

He asked students to display their problem-solving processes in all assignments, and he strictly specified the technical reports’ sections to ensure that Product Development teams documented the projects systematically. The syllabus for Mechanics contained a highly detailed list of formatting guidelines for homework assignments. Dr. Pesek told me that students were resistant to such strict guidelines, and they asked him,

“Why should we do all this?” And I say, “Well, because when you’ve got a problem, you’ve got to be kind of systematic. It’s kind of, what does the problem—what do I want to know, what is the question that’s being asked, what do I have to find out, what don’t I know, and then proceed to the solution.” A lot of people, they look at something and the first thing they want to do is write down an equation and write down numbers without giving a whole lot of thought to it. So if you work through it systematically—and at the freshman level it’s important. We say, this really kind of teaches you how to do things correctly.

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Preparing his students to absorb the norms of systematic thinking from their textbooks, and to work systematically in low-stakes problem-sets when students were just beginning their degree in engineering, Dr. Pesek indicated, would set them up for the habits of mind required for working through the whole “product development process.”

Dr. Pesek was fond of telling me, and also his students, that “A solution is not a design.” A simple solution neglects other integral elements of the product development process: “[W]ho’s the customer, what does the customer want, and so on and so on? What are the many different concepts, and how do you come up with the best one?” Certainly the various assignments associated with the design project in Product Development were structured so that students could systematically display their design processes. However, writing as a *display* of process should not be confused with the *process* of writing. Professor Pesek’s emphasis on templates and specifications, his continual reference to writing as information, and his insistence that the students already “know what they need to put in there” suggest he viewed writing not as an extension of that thought-process, but as a display of previously formed knowledge.

Writing identity. Professor Pesek’s own writing identity was difficult to discern. He told me that he had not done much, if any, scholarly writing in recent years. By extrapolating from the data I determined that Dr. Pesek did write professionally, but that his writing practice did not contribute to his identification as a writer in any meaningful way, and therefore did not appear to shape his approach to teaching writing.

I asked him about his experience with scholarly writing, and instead of discussing himself he referred to the typical engineering graduate student’s process of writing one’s way into the field and into a faculty position. He told me,

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Typically, when you graduated, when you got your PhD, you had at least two papers somewhere in the hopper, that were sent out for publication and so forth, and then—

M.C.: Journal articles?

G.P.: Yeah. And then as many as—I don't know, who knows how many afterwards. You could probably get 3, 4, 5 publications out of your dissertation, you know. Either archived journals or conference proceedings, but that's kind of what you do.

We can surmise that his experience may have been close to this, and his CV attests that he had indeed published scholarly articles on reactor thermalhydraulics. However, though he occasionally taught with journal articles to upper-level undergraduates and graduate students, Dr. Pesek did not appear to participate much in the genre.

I determined that Dr. Pesek did have a non-scholarly writing practice. He told me about a grant he had received from the Nuclear Regulatory Commission (NRC) to develop curricula and provide supplies for laboratory courses, which meant that he had written an effective grant proposal. Furthermore, his CV showed that he has published articles and conference proceedings on engineering education, and as a teacher he produced a wide variety of course documents (writing assignment prompts, problem sets, feedback, etc.). As Lea and Stierer (2009) have shown, higher education faculty tend to view scholarly writing as more prestigious, and as a result do not tend to count “everyday” or “workplace” writing as legitimate. Yet, as the authors found, the writing of documents like grant proposals, accreditation reports, and course materials does in fact confirm and extend faculty's academic identities, or professional “sense[s] of self” (p. 426). Professor Pesek downplayed his “everyday” writing perhaps for similar reasons—that because he did not view this work as legitimate scholarship, he did not describe it as a part of his writing practice.

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An acknowledged writing practice shapes one's writing identity (Moje, Luke, Davies, & Street, 2009), and a conscious writing identity is meaningful for teaching practice because it enables teachers to demonstrate and model "writerly" behavior, and to empathize with the challenges of writing (Cremin & Baker, 2010). Determining the effect of an absent or tacit writing identity on Dr. Pesek's teaching is certainly difficult. Suffice it to say that Dr. Pesek showed no indication of modeling writing (or providing students with other models of writing), or of identifying with students' writing processes. Because he did not discuss his own writing experiences with me, he may not have done so with his students.

Summary. The discursive dimensions of disciplinary identity that I captured for this study yielded thin data for Dr. Pesek. He had strong views about the nature of knowledge in engineering (i.e., the systematic application mathematical and scientific principles to real-world problems in order to solve them). However, his disciplinary identity did not include a strong orientation to literacy. Therefore, disciplinary identity as it is operationalized in this study does not appear to shape his approaches to writing instruction in a clear way.

Educational Ideology

Professor Pesek's predominant belief about a college education was that it should prepare students for a career that they are interested in, and can be successful in. He also considered that college could help students to develop personally, but his discussion suggested that personal development was ultimately a means for helping students find a meaningful career.

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Professor Pesek's view that the primary purpose of a college education is to prepare students for their chosen careers is predictable, given the applied nature of engineering, except that he believed this view would be "true for any degree." As I demonstrated above, the demands of industry and goals for professionalization strongly informed his day-to-day approaches to instruction with his students. These attitudes permeated his broader educational philosophy, too, though whether his disciplinary goals shaped his educational beliefs or vice versa is unclear. When I asked him about the role of higher education he told me,

Well it may sound trite, but to prepare themselves for a career. I think that's a strong reason. Not necessarily a job, per se, because I think a job and a career are two different things. They can be the same. A job can be a career...

In addition to the professionalizing aims of college, Dr. Pesek also believed college aided in students' development of general skills. However, in his discussions of skills development, career preparation was never far behind. To Dr. Pesek, general skills meant things like "independence and time management." He said, "So a successful student learns that and goes through that. It's also getting a degree in what you're interested in." As he went on to talk about students' personal interest and development, it became clear these aims were instrumental to career preparation. After discussing personal skills, he drew a parallel to professionalization by concluding, "That's the career thing again." At another point he said more explicitly that a student's personal interests and career plans are inextricably tied up:

A student that majors in something that he or she does not want to do, and then goes out into the world doing something that they don't want to do, that's not a very good thing. You can't just not be concerned about what's going to come later. That, you know, I don't really have to worry about it, I can get a degree in underwater basket-weaving, because that's what I really want to do. Which is

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great if you want to do that, but you still have to, you've got to be able to look beyond the next four years—you've got to look for the next 44.

As I have discussed, Dr. Pesek's views about the roles of education as preparation for a career were clearly manifested in his writing instruction. He asked his first-year students and seniors alike to engage in team-based projects and to produce technical reports. The academic genres Dr. Pesek assigned also echoed professional norms in spirit, if not in form. Dr. Pesek provided detailed protocols for completing and formatting problem-sets in Mechanics, for example, which modeled the kind systematic display of thinking that would be required in career contexts. In Product Development Dr. Pesek assigned a number of essays that were academic in form, but professional in content. The Teamwork Essay asked students to engage in a reflective exercise about the nature of engineering work. The Ethics Essay asked students to write an analysis of those who bore the "technical and organizational responsibility" of the 2010 Deepwater Horizon oil spill, which aligns with the discipline's aim of solving real-world problems. The assignment of both professional and academic genres shows that Dr. Pesek wanted students to develop skill in producing the text itself (as in the technical report, and formatting homework problems), but also wanted students to develop less concrete, attitudinal skills which they would then transfer to professional contexts (as in the teamwork and ethics essays).

Summary. When we were discussing the role of higher education, Dr. Pesek asserted that his points held across disciplines. He claimed that students should consider a profession when deciding on a major, irrespective of their field of study. Students, he added, should use college to help them discover what they were truly interested in, but his vocational orientation crept in when he revealed that students' personal interest was important insofar as it helped them to be successful over a long career. While his writing

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assignments and his approach to instruction bore out his careerist views, he made no clear attempts to capture students' interest through writing. Given his previous comments that an engineering student's first courses are not "all that exciting," he appeared to view personal interest as secondary to professional development.

Departmental and Institutional Norms

In response to the research question about what other factors influenced Dr. Pesek's approaches to writing instruction, I have determined that departmental and institutional expectations are a relevant influence on all of this study's participants. In Professor Pesek's case, curricular norms in engineering and departmental accreditation standards were some of the most salient variables within this category.

Curricular norms. Though he did not see it as a constraint, Professor Pesek's teaching was controlled by the department's practices of standardizing coursework, which mirrored the field's value for standardized knowledge. The respective sections of Mechanics and Product Development students received the same syllabus and did the same assignments. Professor Pesek was not the sole designer of writing assignments in either course, though he did have input through collaboration with the instructors of other sections. Dr. Pesek's longevity in the department, his standing as an Axis Program instructor (which, as he described, was comprised of the "best teachers"), and his research interests in engineering pedagogy all indicate that he had at least some influence on assignment design. Nonetheless, at a couple of points in our interviews, he told me that one colleague or another came up with an assignment, or its latest version. He mentioned in passing that the peer evaluation process, for example, and the Teamwork Essay in Product Development were ideas that different colleagues had, although he

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thought they were good contributions to the assignment sequence, and he taught them willingly. We can therefore characterize his writing instruction as both constrained by standardization but also enhanced by collaboration.

Not all courses in the department were highly standardized, which Dr. Pesek thought was an important balance to the uniform fundamentals courses. The “more specific, elective-type courses” required of upper level students came out of “particular faculty member’s interests and research,” and by implication had the least departmental constraints placed on them. He went on to tell me,

You might have courses in building tech—well, HVAC technology and Smart Buildings, and so on. You’ll have something in solid mechanics, or fluid mechanics, or something like that. So it’s good to have electives, because you don’t want to force every student to take the same courses. Because that’s not what they’re going to be doing when they get outside. And you have a lot of freedom in that.

Product Development was a senior-level course, but it was not an elective. It was a required course of mechanical engineering majors, and was therefore standardized like the first-year fundamentals courses. In spite of the fact that he taught two highly standardized courses, Dr. Pesek told me that “really no constraints” were placed on his teaching. His claim signified that he either did not view curricular standardization as constraining, or because it was so normalized by the discipline, he was not cognizant of its influence.

Standards of accreditation. Despite Dr. Pesek’s claims about how “really no constraints” were placed on his teaching, the school of engineering’s accrediting body, the Accreditation Board for Engineering and Technology (ABET) had a demonstrable influence on his engineering courses, and on his writing assignments in particular. ABET

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accreditation standards were frequently present in Dr. Pesek's discussion of his teaching.

In his words,

There are specific, what they call "A-K Guidelines" that have to be followed... So, the assignments need to—the exams, the assignments, and everything else as a whole as a curriculum has to make sure that these points are hit... [and] we in each one of the individual courses, we know—in fact in the syllabi really what we do in most cases is really put specifically what the ABET criteria are that this course is hitting.

The weight of the standards was evident in that faculty designed their courses with them in mind, and had to demonstrate that particular assignments helped to fulfill the standards. Dr. Pesek told me, "And so each faculty when they're developing their course, you know, is developing a course to meet one or more of those criteria." He went on to say that accreditors used to ask, "What did you give to the students?" But now, ABET accreditors want to know,

How do you know that the students are getting it? ... Which makes sense. So that's why we use, like I said, we use reports, we use specific—you can't just say "Well, this is what we gave them. It's their fault if they didn't get it!"

Dr. Pesek's comment here demonstrates his awareness that writing is considered an activity that is conducive to learning. Whether he assigns writing because he believes in its intrinsic value for learning, though, or because he thinks accreditors will approve of it for that reason is unclear.

He told me about an accreditation visit "some years back." During that visit, "one of the dings that we got" had to do with the lack of writing and communication assigned in engineering courses. Accreditors wanted the school of engineering to develop a stand-alone communications course, but faculty administrators resisted because they did not want to "throw an additional 3-credit course" into an already tightly packed curriculum. Therefore, faculty made a concerted effort to build more communication and literacy into

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existing courses. Dr. Pesek explained how the department made its rationale to accreditors:

Here's how we get communication in: they've got to make presentations, they've got to write reports, they've got to do all kinds of things through the curriculum. It isn't specifically a course, but rather it's kind of woven in...

Dr. Pesek's inclusion of writing assignments into his courses, therefore, was strongly motivated by ABET accreditation standards. While he may have valued writing for its own sake, and clearly valued it for its professionalizing influence, the sway of accreditors was perhaps the greatest external influence on his use of writing assignments.

Summary. The applied nature of the discipline accounts for the school of engineering's propensity for standardizing courses, and for its careful attention to accreditation standards. In a field that deals with solving material problems, a common base of mathematical and scientific knowledge is necessary for all students, and so the department of Mechanical Engineering, the school of engineering, and the accrediting board, ABET, worked to ensure that students received a measurably consistent education.

Dr. Pesek's pedagogical values for design-based curriculum, writing instruction, and team-based assignments appeared to genuinely align with ABET outcomes and departmental standards. Still, sometimes he indicated that accreditation was one of the primary reasons for the existence of the Axis Program courses, and other design courses in the school of engineering—courses that could accommodate the kinds of written and project-based assignments that ABET wanted to see. He told me, “certainly the design courses, a lot of the courses require reports and/or presentations. They're doing projects— one of the [accreditors'] issues always is, ‘Do projects in the course’ and so on.” Accreditation standards, then, were such a clear and strong influence on Dr. Pesek's

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approaches to writing instruction that the distinction between the external standards and his own personal standards of good teaching was not always clear.

Summary of Key Findings

This section summarizes the key findings for the study's first research question about instructors' approaches to writing instruction. I then explore how the factors represented by the study's second research question appear to influence Professor Pesek's approaches.

Approaches to Writing Instruction

Professor Pesek took an instrumental approach to writing instruction, and treated writing as a means for preparing students for their professional careers. He assigned technical reports that are used in industry; he assigned academic genres that made reference to professional norms and ethics; and he used poster presentations to simulate a professional environment. His continual reference to the demands of industry, his focus on formatting and correctness, and his emphasis on the industry standards of ABET all reinforce his utilitarian approach to writing instruction.

A second finding of this case is that Professor Pesek was oriented to writing as a product (Abbott & Eubanks, 2005). That is, he viewed academic writing as a tool for documenting information, or as an "ex post facto expression of a scientific idea or a technical effort, not as part of that idea or effort" (Miller, 1979, p. 615). He treated the technical reports across both courses as final representations of knowledge, but did not indicate that the process of writing the report itself furthers learning. This view was solidified by his continual reference to the reports as well-ordered information, by his specifications-oriented guidance, and his approach to feedback as correction.

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Factors that Influence Writing Instruction

While Dr. Pesek's academic biography clearly shaped his relationship to the field of engineering, it did not appear to influence his writing instruction in a meaningful way. His characterization of his experience as a student lacked any description of formative literacy experiences. If anything, his absence of meaningful writing experiences or writing teachers may have reinforced his view that writing is a product and that he did not teach writing to his own students.

Disciplinary identity had a mixed influence on Professor Pesek's writing instruction. On the one hand, he clearly characterized the common genres and discursive practices of engineering, and the technical reports he assigned embodied the derived and applied nature of engineering knowledge. On the other hand, he did not acknowledge his own writing practice or identify as a writer, so that dimension of his disciplinary identity did not have a demonstrable influence on his approach to writing instruction. This variable reinforced Dr. Pesek's view that, "Science text is about things and processes, and it, thus, uses technical vocabulary in ways aimed at suppressing agency" (Shanahan, Shanahan, & Misischia, 2011, p. 399). In a discourse where authorial agency and voice are traditionally suppressed, Dr. Pesek's lack of writing identity makes sense.

Dr. Pesek's educational ideology had the clearest influence of any of the framework's factors. He was explicit that college should prepare students for their careers, and his writing assignments appeared to serve that aim. He also indicated that higher education should help cultivate students' skills and interests, but these skills and interests were ultimately instrumental to one's career success.

Departmental and institutional expectations shaped Dr. Pesek's approach to writing in a couple of ways. Due to the discipline's value for standardized knowledge, the

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school of engineering standardized many of its courses, including the two that Dr. Pesek taught. Therefore, Dr. Pesek designed his curriculum and assignments collectively with other faculty, which meant that he taught co-designed writing assignments. In addition, the stringent expectations of the school of engineering's accrediting body, ABET, shaped Dr. Pesek's writing instruction. His writing assignments in particular were responses to accreditation requirements that engineering educators incorporate writing and communication into their courses.

CHAPTER 8: CROSS-CASE ANALYSIS, CONCLUSIONS, & IMPLICATIONS

A cross-case analysis can help assess the strength of the themes that emerged in each of the cases, and can generate insights about the utility of the conceptual framework used in this study. Therefore, this chapter addresses the study's three central research questions by examining approaches to writing instruction through a comparison of case findings within and across disciplines, then by analyzing how the factors shape those approaches across cases, and finally by discussing whether and how the conceptual framework was a useful model for this study. Finally, I offer conclusions from this study, and suggest possibilities for future research.

Approaches to Writing Instruction in History

The history participants' approaches to writing instruction are organized by writing assignments, instructional goals and strategies, and feedback and assessment. The section concludes with a summary of findings from the history cases.

Writing Assignments

Across both history cases, writing was a central feature of each course. Though the assignments were dissimilar in form and content, they were similar in the modes of thinking they attempted to elicit.

Form. The assignments in the history courses were dissimilar in form. Whereas Dr. Francis assigned exclusively academic genres (essays and essay-exams) in both of his courses, Dr. Oliver assigned a variety of academic and discipline-specific genres (ranging from discussion posts to a historiographical essay). Dr. Oliver's course assignments were increasingly formal as the course progressed, and culminated in a set of assignments that she characterized as genuine historical scholarship.

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Both instructors emphasized stylistic writing conventions, though Dr. Francis placed a greater emphasis on stylistic conventions that are specifically historical, such as tense and footnoting practices. Dr. Oliver attended more to generic issues, such as prose clarity and structure. However, because her assignments varied in form, she attended to different formal and structural elements that were specific to each genre (e.g., she encouraged the use of the first person for the discussion posts, emphasized deportment for the oral presentations, encouraged concision in the book reviews, etc.).

Instructors' approaches to assignment prompts also differed. For each essay Dr. Francis had crafted a written prompt that incorporated historical narrative and provocative questions. Dr. Oliver described writing assignments in the syllabus, and provided some *ad hoc* written guidelines for the historiography/oral presentation assignments, but otherwise described the course assignments verbally in class. In her discussion of the book review assignment, she provided students with models of professional book reviews, but Professor Francis provided no models. Her provision of models from the field indicates the extent to which the form of the genre was defined by norms in the field.

Content. Assignments across history cases were dissimilar in content, even though they dealt in content that was broadly historical (i.e., most assignments asked students to attend to how issues changed over time). In both of his courses, Professor Francis's essay assignments required students to write on prescribed topics related to the respective course subject (the American Revolution and opposition to American slavery), and to answer questions about those topics, though these questions were open-ended and students could shape their arguments how they wished. He placed strict limitations on the

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kinds of primary sources students could use, which he characterized as an “anti-plagiarism” strategy.

Dr. Oliver’s assignments were more open-ended in terms of content, in part because the course did not focus on one aspect of history, but was rather a survey of historical topics and methodologies. Students could respond to readings how they wished, they could select the books they wanted to review, and they could choose the journal that would be the subject of their historiography. Dr. Oliver placed few, if any, limitations on the kinds of sources students could use in their writing (though the genres did not typically lend themselves to outside research).

Modes of thinking. Writing assignments were highly consistent across history cases in the modes of thinking they asked of students. In spite of their differences in form and content, all assignments asked students to make arguments that were grounded in interpretations of evidence. Both instructors also framed students’ arguments as critiques of, or contributions to, existing historical scholarship. The extent of emphasis on evidence varied slightly— Dr. Francis was more emphatic that evidence trumps “fantasy” when one constructs an argument, which indicates a slightly more empiricist orientation to evidence. Dr. Oliver acknowledged that, though arguments should be grounded in evidence, writers make interpretations based on subjective backgrounds and “filters.” Despite these distinctions, the participants’ requests for evidence-based interpretation, evaluation, and critique in their writing assignments were broadly the same.

Goals and Strategies

Across the history cases, the professors had multiple goals with regard to inculcating generic and disciplinary knowledge through writing. Participants

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conceptualized these goals in subtly different ways, but overall both history instructors prioritized writing as a means to knowledge that was useful beyond the bounds of the discipline. They employed similar strategies in their teaching of writing to achieve their writing goals.

Both professors espoused generic literacy goals for the writing they assigned in their courses. Both also suggested that they had discipline-specific aims, but these aims were secondary to their over-arching critical thinking and literacy goals. Professor Francis described his assignments as largely generic with some secondary disciplinary attributes (e.g., footnoting). Dr. Oliver framed her assignments as “socializing” students to the discipline, but also considered that students’ disciplinary literacy (Moje, 2011) was instrumental to building broader knowledge. For example, she believed that developing a sound historical argument would enable students to construct an argument in other contexts. Dr. Francis used academic genres and Dr. Oliver used both academic and disciplinary genres, but the professors’ goals were ultimately the same in both cases: the development of critical thinking skills that would help students in “every arena of life.”

Participants in both history cases attempted to facilitate their students’ literacy development by emphasizing writing as a process, and they demonstrated this view in similar ways. Dr. Francis framed the assignments as scaffolded: though the genres were constant, he claimed the first assignment was the easiest and he expected students to apply feedback from one essay to the next. He also discussed each assignment in class, and encouraged students to seek feedback on rough drafts. Professor Oliver also framed assignments as scaffolded: the genres became increasingly demanding in modes of thinking and formal conventions, and she offered verbal instructions before the major

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assignments. While she did not offer to read rough drafts, she did treat writing as an iterative process by characterizing the book review as a tool for diagnosing issues that students could then attend to later in their historiographies. Dr. Oliver also worked to achieve her goals of developing students' literacy by emphasizing mechanics and structure, which Dr. Francis did not highlight as a priority, though his TA Natalie did. Despite slightly different emphases, both professors framed writing as iterative in nature, and aimed to support students before, during, and after the writing process.

Feedback and Assessment

In both cases, participants characterized feedback on student writing as an essential element of their instruction. Though their specific approaches differed, both offered prompt, thorough, and formative feedback on each student's written assignment. Dr. Francis used very similar rubrics across both of his courses, but Dr. Oliver tailored her feedback to the particular demands of each assignment. In both cases, participants considered feedback to be a tool that students could use to improve on future assignments. Both participants solicited feedback from students as a strategy for tailoring their instruction, and for enhancing students' metacognitive awareness of their learning in the course.

Summary of Key Findings

Two key findings emerge from analysis of the history cases. First, both history professors approached writing as a process, and as a tool for learning. Second, though instructors assigned a variety of genres in the history cases, all writing assignments were designed to cultivate critical thinking and literacy skills that students could apply beyond the boundaries of the discipline.

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The history professors' approach to writing as a process and a tool for learning is consistent with how other researchers portray what it means to write in history. Greene writes that history professors like to assign writing because it helps "students acquire new knowledge and think critically about new issues" (1993, p. 47). Donald writes that methods for building knowledge in the humanities center on "hermeneutics [or interpretation] and critical thinking" (1992, p. 414). Neumann, Parry, and Becher found that, in "soft" disciplines like history, writing assignments are designed to "elicit [students'] judgments on debatable issues" (2002, p. 409), and the college history instructor in Russell and Yañez's in-depth study of a college history course claimed that he viewed history as a means for "developing students' critical thinking and writing" (2003, p. 339).

The variety of genres the history professors assigned reflects researchers' "difficulty in distinguishing the features of historical genres" (Beaufort, 2007, p. 71). Because of the variability of formal features, researchers tend to focus on the rhetorical moves inherent in historical writing—using multiple sources, contextualizing sources, and making causal arguments (Beaufort, 2007). The variety of genres assigned across the history cases, and the absence of standard formal genres in the literature, supports the call for a better understanding of how the forms and genres of written assignments shape student learning in history. Researchers have found that the form of a written assignment may determine how college history students interpret that assignment (Greene, 1993), that instructors' explicit explanations of the "form and function of different history genres" can lead to "more clearly structured" student writing (Coffin, 2006), and that clearly framing the purposes of writing tasks can better "promote historical thinking" for

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middle school students (Monte-Sano & De La Paz, 2012). Because neither professor discussed with their students how the genres they assigned achieved their non-disciplinary knowledge aims, this study prompts further questions about the significance of instructors' explicitly framing the purposes of assignment genres.

Explicit framing of assignments is especially relevant in a discipline like history. The participants' conceptualizations that the writing they assigned was generic in nature, or that it achieved non-disciplinary ends, illuminate some of the complications of writing instruction in "soft" disciplines, which tend to emphasize "critical thinking, oral and written expression, and analysis and synthesis of course content" (North, 2005, p. 519). Researchers contend that the genres assigned in college history courses can be "ill-defined in nature" (Beaufort, 2007, p. 87), in part because they lack "correspondence to disciplinary or professional genres in a field" (Carter, 2007, p. 400). Even if they do correspond to a professional genre (as Dr. Oliver's historiography assignment did), the instructor may not expect the students to enter that field professionally (which neither history participant did). As a result, the generic and disciplinary aims of the assignment can become entangled. As Russell & Yañez (2003) ask in their study of one student's experience with learning to write in a college history course,

Was the motive to teach students the methods of professional academic historical research (knowing that they would not become professional academic historians)? Or to reinforce and develop ("sharpen") general analytical skills (not knowing the activity systems in which the students would write)? Or if both, what is the relation between the two? (p. 342; emphasis in original).

Though participants in both history cases anticipated that writing in their courses would lead to "general analytical skills" and general literacy skills, neither of them speculated about the particular contexts in which these skills would be applied, or how

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students would translate those skills *from* the disciplinary contexts in which they learned them. The professors' assumptions about the general applicability of skills highlight some of the problems researchers have identified with transfer (Alexander & Murphy, 1999; Smit, 2007; Wardle, 2007), particularly with students' tendency not to consider the skills they learn in one course as "portable" to new contexts (Bergmann & Zepernick, 2007, p. 129). Both participants' conceptions and goals for student writing reinforce some of the problems researchers point to regarding the form of written assignments in history. While Professors Francis and Oliver have both emphasized that writing is a generally important tool, they were typically "transparent" about the "forms and uses of that tool" (Russell & Yañez, 2003, p. 343), which is not an uncommon approach for instructors who prioritize generic critical thinking and literacy skills (Carter, 2007; Russell & Yañez, 2003).

Approaches to Writing Instruction in Engineering

The engineering participants' approaches to writing instruction are organized by their writing assignments, instructional goals and strategies, and feedback and assessment.

Writing Assignments

Writing assignments were generally consistent in form and content across engineering cases, but had an important divergence in modes of thinking they were designed to cultivate.

Form. Written assignments were consistent in form across all engineering courses, with some minor differences. Participants assigned team-written "technical design reports" and oral presentations, both of which were meant to replicate professional genres and simulate professional contexts. Both participants assigned additional academic

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genres to support students' report-writing, though these supplemental assignments varied in form and were secondary to the technical reports. Mr. Capello assigned practice exercises to give students experience with using Computer Aided Design (CAD), a program for producing engineering drawings, and Professor Pesek assigned a couple of short academic essays on team behavior and engineering ethics to support the team project experience. Aside from variation in the form of supplementary writing and communication assignments, the technical reports themselves were similar across cases.

Content. The content of the technical reports was consistent, and the content of the oral presentations varied somewhat across cases. The technical reports were standardized, and mirrored the content of technical reports in the field. The prompts for these reports specified the sections to be included (executive summaries, design details, design drawings, calculations, project results, etc.), as well as detailed requirements for each section. Dr. Pesek provided the most minimal guidance for the technical report in the Introduction to Mechanics course, whereas guidance was more extensive in his Product Development course and in Mr. Capello's Team Design. Both participants framed the technical reports as vehicles for the transmission of static information, though Mr. Capello had another layer of purpose to his writing assignments. Oral presentations in Mr. Capello's course directly mirrored the structure of the design reports, while teams in Dr. Pesek's Product Development course altered the content of their reports to fit the genre of a poster presentation for Design Day. The classroom-based oral presentations were more academic in nature, but the use of the poster presentations led to a more authentic simulation of a professional presentation atmosphere at Design Day. Despite

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the divergence in the content of oral presentations, the central writing assignments—the technical reports—were consistent in content across cases.

Modes of thinking. Participants in both cases designed assignments to elicit modes of thinking that for the most part overlapped, but had one important divergence. A primary learning goal for both engineering instructors was that students learn the technical report genre in and of itself, because knowing the genre is a requirement for professional practice. This learning outcome is consistent with the specifications-oriented content of the reports, in that students needed to learn the standard requirements of the genre, irrespective of the reports' particular contents. Both participants also emphasized learning the meta-skill of writing on a team, and both emphasized technical writing as a means for systematically documenting the design process.

However, whereas Dr. Pesek treated the report as a receptacle for finalized information about the design process, Mr. Capello approached the technical report as an extension of the design process. By highlighting narrative and coherence, he attempted to get students to use the report-writing process to develop insights about the design project. Thus, though technical reports were formally the same across courses, Mr. Capello had multiple learning objectives and Dr. Pesek had a singular purpose.

Goals and Strategies

Both engineering instructors had clear goals to use writing as a tool for professionalizing students. However, Mr. Capello had an additional purpose for teaching writing, which was to develop students' critical thinking skills. As a result, participants had overlapping but ultimately divergent strategies for teaching writing.

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In both engineering cases, instructors had the goal of using writing assignments to simulate professional genres and oral presentations to simulate professional experiences. Both instructors constantly made reference to industry in their discussion of course assignments. Both wanted students to be aware that writing would be required of them in their professions, and both wanted to refute what they noted as the traditional view that engineers do not need to write. Despite that goal, Dr. Pesek had very minimal writing expectations for his first-year students, whereas Mr. Capello's first-year students wrote a lot. I have posited that Dr. Pesek's minimal expectations of lower-level students appear to align with his view that writing was a skill that students developed naturally over time, irrespective of instruction.

In addition to preparing students for the engineering profession, Mr. Capello also suggested that he wanted his students to develop their critical thinking and problem-solving skills through writing. He even occasionally characterized the demands of industry as a potential distraction from his efforts to develop critical and creative design thinking. Thus, though both instructors viewed writing as instrumental to professional preparation, Mr. Capello's instrumentalist goals were tempered by goals that writing would facilitate better thinking about the design process.

To fulfill their goals, both engineering participants emphasized writing accuracy, formatting, and specifications. Dr. Pesek spoke about students' writing quality almost exclusively in terms of correctness and adherence to specifications, and provided little guidance other than the list of content requirements for each report, along with the request that students strip their prose of "flowery" language. Mr. Capello also stressed precision and warned his students against the use of the active voice and informal

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language (a predominant stylistic approach in engineering communication: Beaufort, 2007). But Mr. Capello also explained that he took a “convergent” approach to teaching: he indicated that there is not a single answer to a problem; rather, solving it requires one to consider an array of given information and assumptions, and then “converge on what is a good solution.” His instructional strategies therefore diverged from Professor Pesek’s in that the prompts asked students to think of their reports as a tool for “making sense” of the design process, and he framed the reports as “telling a story” rather than as collections of information.

Feedback and Assessment

Both participants characterized their approaches to feedback in similar ways, though they did not always fulfill their espoused intentions in the same ways. Each participant claimed that feedback was a significant aspect of his writing instruction, yet each appeared to give different amounts of feedback—Mr. Capello offered copious amounts of feedback on his students’ preliminary reports, though much of it took the form of error correction. Dr. Pesek gave no feedback at all on his introductory students’ truss reports, and appeared to assess Product Development students based on correctness of mechanics and formatting, and on adherence to report specifications. Both instructors characterized their feedback as formative; Mr. Capello encouraged students to incorporate corrections and suggestions on later versions of their design reports; Dr. Pesek required it.

Both participants reinforced their professionalizing goals by recruiting outside evaluators to assess students’ work. Both characterized this approach as a way to increase the pressure on students, and as a simulation of a professional atmosphere, where

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supervisors at multiple levels would be assessing teams' work. Mr. Capello also attempted to simulate a high-stakes professional atmosphere by framing himself as a manager. Through their writing assignments, both participants wanted to dispel students' resistance to literacy, and to prepare them for workforce demands. However, in spite of the similarity in form and the overlap in goals, each instructor had a subtly but fundamentally different view of the role of technical writing in students' learning.

Summary of Key Findings

Two key findings emerge from the analysis of engineering cases. First, the engineering instructors by and large treated writing as a final product, though Mr. Capello took somewhat of a process view as well. Second, both instructors considered writing to be instrumental to preparing students for the engineering profession.

Abbott and Eubanks (2005) cite three approaches that engineers can take to technical writing: a product, process, or contextual view. Miller clarifies how knowledge frameworks in science make the product view a dominant view of technical writers:

If the subject matter of science (bits of reality, inartistic proofs) exists independently, the scientist's duty is but to observe clearly and transmit faithfully. The whole idea of invention is heresy to positivist science—science does not invent, it discovers. Form and style become techniques for increasingly accurate transmission of logical processes or of sensory observation; consequently we teach recipes for the description of mechanism, the description of process, classification, the interpretation of data. (1979, p. 614)

Bryson and Scardamalia characterize this approach as a "knowledge-telling" view of writing (1991). Through his emphasis on the "what" contained in students' technical reports, Dr. Pesek espoused a view of knowledge common to engineers that "objects and data speak for themselves" (Winsor, 1996, p. 2). Miller goes on to argue that technical writing can be a part of the learning process because it can provide "an understanding of

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how to belong to a community” (1979, p. 617). However, researchers of engineering communication note that the writing-to-learn view is comparatively recent in the field (Abbott & Eubanks, 2005), and is slow to gain traction (Bergmann, 2000). Our engineering instructors demonstrate how firmly entrenched the product view remains.

While Mr. Capello typically took the traditional perspective, at times he indicated more of a process-orientation to writing (Emig, 1977), or a “knowledge-transforming” view, where “discovery” can happen during the “experience of writing” (Bryson & Scardamalia, 1991, p. 49). That the engineering instructors assigned the same textual form, yet had diverging views about the purposes of the form, has implications for research on how textual form and purpose interact in engineering communication. Because Mr. Capello’s process view of writing is a somewhat newer orientation within the field of engineering communication (Abbott & Eubanks, 2005), this finding warrants more attention to how instructors’ conceptualizations of the purposes of writing interact—or potentially conflict—with the traditional roles of the genre. If, as Shanahan, Shanahan, and Misischia (2011) claim, engineering reports are “about things and processes, and [use] technical vocabulary in ways aimed at suppressing agency” (p. 399), then what does it mean for a technical writing assignment to simultaneously employ narrative as a tool for students’ sense-making and function as a project “deliverable” that is devoid of any subjective voice (Bergmann, 2000, p. 5)? Further research warrants attention to how instructors might incorporate a “knowledge-transforming” approach to their instruction of a genre that comes from an empiricist tradition.

The third orientation to writing cited by Abbott and Eubanks illuminates our understanding of the instructors’ priority for professionalization. The contextual, or

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rhetorical view, frames writing as a response to, or accommodation of, a reader (Abbott & Eubanks, 2005; Gopen & Swan, 1990) and has taken stronger hold in the field than the process view of writing. The contextual view is reflected in both participants' emphases on the application of knowledge to real projects or problems (Neumann, Parry, & Becher, 2002). Their awareness of audience clarifies their emphasis on accuracy and formatting. Both instructors regularly invoked professional managers as hypothetical readers of students' technical reports, and even brought in outsiders to simulate professional managers. Furthermore, Dr. Pesek spoke regularly about how the reports needed to show that the products met customers' demands. Altogether, the consistency of both engineering instructors' goals and strategies for teaching writing aligns with the literature on engineering communication, which posits that students are taught "professional tasks and genres" to prepare them for entry into the field (Poe, Lerner, & Craig, 2010, p. 19; see also Artemeva, Logie, & St. Martin, 1999; Beaufort, 2007).

Approaches to Writing Instruction Across Disciplines

An analysis of approaches to writing instruction across all four cases brings two very different disciplines into comparison. A cross-disciplinary analysis is useful in that it helps to highlight how writing assignments in each discipline are grounded in different knowledge frameworks. The section is organized according to writing assignments, strategies and goals, and feedback and assessment.

Writing Assignments

A cross-disciplinary analysis reveals that instructors in the two disciplines had very different views of the form and content of their writing assignments. These differences in form and content reflect the instructors' respective learning goals.

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Form. Form was consistent across engineering cases, but not across history. The technical report was assigned across engineering courses, whereas one history professor assigned exclusively academic genres and the other assigned academic and disciplinary genres. A noteworthy difference between genres assigned across disciplines is that the form of the disciplinary genres (i.e., the technical reports, book review, and historiography) was a key feature of the assignment, whereas the form of the academic essay assigned in the history courses was not integral to its content and function. In fact, the academic essays were malleable and Dr. Francis appropriated the genre to suit his purposes; for example, as I have said, he embedded within the essay assignments features of the disciplinary subgenre, microhistory. The only conventional constraints Dr. Francis placed on the academic essays were lexical-level conventions having to do with footnoting practices and tense.

On the other hand, the features and conventions of the technical report were highly normative and so form was very similar across the engineering courses. Whereas Dr. Francis said at one point that he was free to assign an “interpretive dance” if he chose, the engineering instructors’ assignments were rigidly constrained by the standards of the department, the norms of the field, and the school of engineering’s accrediting body. Perhaps because of these constraints, the engineering instructors billed the formal conventions of the technical report as important knowledge outcomes in and of themselves. Like the engineering instructors, Dr. Oliver explicitly framed the formal characteristics of the disciplinary genres she assigned—the book review and the historiography—as integral to the assignments. However, the formal characteristics were more open-ended than the technical reports (i.e., she did not stipulate exactly how the

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content should be ordered). During her class discussion about the book review, Dr. Oliver passed out a variety of models from the field, just to demonstrate how much the form of the genre could vary.

Especially for academic genres like the essay, but even for normative disciplinary genres like the book review and historiography, the forms of the genres assigned were much less rigid in history than in engineering. The extent to which the genre was constrained by the norms of the field seemed to determine the extent to which instructors explicitly discussed its form, and how the form was related to content and learning goals.

Content. The technical reports' prescribed form meant that its content was also constrained. By characterizing the technical reports as appropriately ordered "information," Dr. Pesek reinforced his product-view of writing (Abbott & Eubanks, 2005; Murray, 2003). By comparison, the content of the history assignments was open-ended. Students in Dr. Francis's courses were given prescribed topics, prompts, and sources, but they were free to craft their theses, select evidentiary details, and create their own essay structures. Dr. Oliver's writing assignments were least constraining of all in terms of content—students were free to choose their own topics, select their sources (where applicable), and structure their own arguments. Therefore, the content of the engineering reports was heavily scripted, and the content of the history essays was more open to students.

Modes of thinking. While form and content were variable across history cases, modes of thinking were highly similar. That is, history professors asked students to engage in historical thinking through a variety of academic and disciplinary genres in order to build broader generic critical thinking and literacy skills. Conversely, form and

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content were highly consistent across engineering cases, and modes of thinking were highly similar. That is, both engineering instructors took a product-view (Abbott & Eubanks, 2005; Bergmann, 2000) of the technical reports, but Mr. Capello also demonstrated that he wanted the technical reports to be an extension of students' thinking processes.

Goals and Strategies

The instructors' writing goals were highly consistent within, but not across, discipline. The history professors had goals related to critical thinking and literacy, and the engineering instructors had goals for preparing professional problem-solvers. Wineburg's (1991) comparison of goals in history and the sciences illuminates how the history professors' goals for their writing assignments were broad, and the engineering professors' goals for writing were narrow:

Historical inquiry differs considerably from problem solving in well-structured domains. For example, in domains such as geometry or physics, goals are given to individuals, who then transform problems to arrive at solutions. But in history, goals remain vague and indefinite, open to a great deal of personal interpretation (1991, p. 74).

Perhaps because of the indefinite nature of the goals of the discipline, the history instructors did not define their goals in terms of the discipline, but in universal terms. While Mr. Capello expressed a desire to use the technical reports as a tool for building understanding, both engineering instructors' ultimate goals for preparing students to enter the profession were consistent with one another.

Professors' strategies for writing instruction reflected their goals; therefore, strategies were consistent within, but not across, disciplines. To achieve their learning and literacy goals, the history professors emphasized writing along the pre-writing,

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writing, and re-writing stages, which Murray (2003) characterizes as a process-approach to writing instruction that facilitates the “process of discovery through language” (2003, p. 4). In other words, the history professors *employed* strategies for teaching writing (such as having class discussions about writing assignments, encouraging the submission of rough drafts, and using oral presentations as a means to “try out” arguments). Conversely, the engineering instructors offered no instruction in pre-writing and their strategies for providing instruction at the writing stage consisted mostly in offering specifications and formatting requirements. The engineering instructors’ primary instructional strategy was to offer feedback, as I will show below.

Feedback and Assessment

Professors across all cases prized feedback as an essential element of their writing instruction. However, whereas feedback was one component of a holistic approach to writing instruction for the history professors, the engineering instructors’ used feedback and grading as their primary tools for writing instruction. History and engineering professors offered different kinds of feedback, too. The history professors attended to ideas, structure, and argument, and offered feedback on rough and final drafts both verbally and in writing. The engineering instructors focused heavily on correctness and adherence to specifications. While they both requested that students incorporate feedback from preliminary reports into the subsequent reports, both instructors emphasized that the preliminary reports were not drafts, but were stand-alone texts. Their approach to instruction through feedback reinforces their general characterizations of engineering discourse as a “good final product” (Bergmann, 2000, p. 6) that is referential to, but

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ultimately separate from, the materials and systems that make up engineering design (Pawley, 2009).

Summary of Key Findings

The key finding of this cross-disciplinary analysis is that history and engineering instructors approached writing in their courses in fundamentally different ways. These approaches were evident in their strategies for eliciting the modes of thinking that are embedded within the assignments' forms. These strategies (approaches to writing prompts and to feedback, for example) framed the assignments—and writing in general—in particular ways for students.

A particularly meaningful difference between how the instructors in history and engineering framed their writing assignments comes down to academic and disciplinary genres. That instructors expressly highlighted the formal features of the disciplinary genre assignments and not of the academic genre assignments nuances Russell and Yañez's point that, in higher education, "Writing is acknowledged as important as a tool, but the forms and uses of that tool are ignored" (2003, p. 343). The history instructors were not always explicit about the "forms and uses" of their writing assignments, but that was not the case for the engineering instructors. The data from these cases qualifies Russell & Yañez's claim in that the forms and uses of academic genres may be treated as more "transparent" than disciplinary genres (2003, p. 343). The distinction is logical, given that academic genres do not have "much pretense to practical application beyond the classroom" (Carter, 2007, p. 400), but disciplinary genres do.

The disciplines' distinctive approaches to their assignments' forms illuminate the differing relationships between form and content (i.e., form and content are much more

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integrally related in engineering). These relationships are consistent with the instructors', and with the literature's, characterizations of knowledge in each field. While history uses some commonly accepted genres (Hounsell & Anderson, 2009), the features of those genres are not widely standardized, perhaps because what qualifies as historical content is "ill-defined" (Beaufort, 2007, p. 87), or "indefinite" (Wineburg, 1991, p. 74). That is, there is an "enormous range and diversity of concerns of history" (Hounsell & Anderson, 2009, p. 76). Consequently, the history instructors do not focus on form as intently as the engineering instructors do. As Professor Oliver explained, the best historical texts are those that employ innovative methodologies and arguments. The best texts are different from anything that has come before.

Conversely, because the engineering reports are a mechanism for reporting on a material reality outside of and separate from the texts themselves (Beaufort, 2007; Pawley, 2009), the texts are used to organize and communicate material facts in a standardized way. Learning those standards and conventions is an integral part of learning to write in engineering (Evans, 1995; Gopen & Swan, 1995). Thus, as students progressed toward expertise in their history courses, they were increasingly encouraged to innovate; in engineering, they were encouraged to conform.

The instructors' strategies for instruction and feedback make sense in light of their assignments' forms and purposes. Because the history professors approached writing more as a tool for broad intellectual development, whatever emphasis they placed on disciplinary conventions was because those conventions played a role in those broader, non-disciplinary goals. Because the engineering professors viewed writing more as a tool for documentation and communication, they emphasized accuracy in formatting and

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adherence to specifications, and used feedback mostly as a mode of error correction.

Viewing literacy as a learning experience unto itself, the history professors provided scaffolding and support for students' writing experiences at all stages, from reading and planning to writing and feedback.

As I will demonstrate through a cross-case analysis of the factors that influence the faculty's writing instruction, their approaches are reflections of their espoused views of writing and teaching, and these views are grounded in their academic biographies, disciplinary identities, educational ideologies, and in one discipline, their departmental and institutional contexts.

Factors that Influence Writing Instruction

The factors of the conceptual framework that I brought to this study were influential across cases in both disciplines. Because of their universal influence, I analyze each of the factors across all cases, and note if and how influence varies by discipline. During data analysis, I discovered a fourth factor that was influential for the engineering instructors, but not on the historians.

Academic Biography

Academic biography was a factor in all four of the professors' approaches to writing instruction. The significance of academic biography was especially clear in the relationships Dr. Francis, Dr. Oliver, and Mr. Capello had with influential teachers in college and graduate school. Academic biography played a different role in Dr. Pesek's approach to writing instruction, in that the absence of any formative literacy experiences or writing teachers was reflected in his lack of emphasis on literacy in his own teaching.

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Dr. Oliver and Mr. Capello had meaningful relationships with writing instructors—Professor Oliver with a composition instructor she had asked to read her papers (but who did not actually teach her a course), and Mr. Capello with the instructor of his junior-year technical writing course at EU. Dr. Francis did not allude to a writing teacher, but did say that his high school history teacher taught him about the integral relationship between history and critical thinking, reading, and writing. The influence of teachers was reflected in all three instructors' teaching of writing in that they all espoused the value of literacy in their disciplines and emphasized writing in their courses in ways that mirrored their own teachers' approaches.

In all three cases, the influential teachers were caring and encouraging. Dr. Francis, Dr. Oliver, and Mr. Capello indicated that their teachers had lasting impressions on them in part because of how these teachers contributed to their intellectual development, and also because they established personal relationships that enhanced their learning. That investment in students' personal development was most evident in the history professors' teaching, and was particularly echoed in the pedagogy of Professor Francis, who claimed outright that he modeled himself on his caring teachers.

Exploring an instructor's academic biography can help researchers to uncover instructors' formative literacy experiences, which may be meaningful predictors of their literacy instruction. The approaches all instructors took to teaching writing in their courses echoed their experiences as students, and those echoes reinforce the educational literature that has identified teachers' own schooling experiences as influential on their teaching (Britzman, 2003; Holt-Reynolds, 1999; Shulman, 1986). Lortie (1975) writes that "There are ways in which being a student is like serving an apprenticeship in

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teaching; students have protracted face-to-face and consequential interactions with established teachers” (p. 61), and Danielewicz (2001) explains that this apprenticeship relationship is “important because interactions with authority figures powerfully affect who we become and how we think about ourselves” (p. 77). The findings of this study bridge educational research and composition studies because they show that the educational construct of a teacher’s academic biography can inform theory about “what it means to teach writing” (Ochsner & Fowler, 2004, p. 134).

Disciplinary Identity

I operationalized disciplinary identity along three dimensions for this study: instructors’ characterizations of exemplary texts in the field; their views about the uses and purposes of knowledge in the field; and how or whether their writing identities shaped their approaches to writing instruction. While the first two dimensions help to explain all cases, only the history professors demonstrated writing identities that informed their writing instruction.

Instructors’ characterizations of exemplary texts in their fields help to explain writing instruction in all cases. Drs. Francis and Oliver wanted their students’ writing to reflect the kinds of thinking manifested in historical texts. The monographs they presented were exemplary because they were groundbreaking in their methods and their arguments. These texts displayed exhaustive amounts of evidence and used that evidence in creative ways to make new historical arguments. Similarly, the professors wanted their students’ writing to question, interpret, and evaluate evidence, and to critique and contribute new knowledge to the field.

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Mr. Capello and Dr. Pesek's courses were textbook-centered, which is typical in the sciences (Dillon, O'Brien, Moje, & Stewart, 1994), and their assignment of technical reports was highly reflective of their characterizations of textbooks. Because the aim of scientific and technical writing is the "subduing [of] language so that it most accurately and directly transmits reality," textbooks communicate what is for all intents and purposes indisputable fact (Miller, 1979, p. 610). Mr. Capello told me, "You know, we don't necessarily try to *prove* Newton's laws, we take it [sic] as *fact*...." The unchanging fundamental principles of engineering textbooks explain the instructors' inclination to treat the technical reports as organized repositories of information rather than as interpretive texts.

Across cases, the instructors' views about the purposes of knowledge in their discipline shaped how they framed writing to their students. The history professors indicated that the purpose of historical knowledge is to effect change, on a broad societal level as Professor Oliver demonstrated, or on an individual level as Professor Francis demonstrated. Their writing instruction aligns with Counsell's (2009) characterization that history is an "emancipatory" discipline that enables students to "challenge the grounds of others' generalisations [sic]" and "engage with serious political discourse" (p. 202). The instructors' characterizations also align with Wineburg's claim that history has the potential for "humanizing us" and "bring[ing] us together rather than... tearing us apart" (1991, p. 5). These broad, humanistic claims about the roles and goals of history mirror the history instructors' broad views.

The engineering instructors were both explicit that the purpose of knowledge in engineering is to use the principles of math and science to solve practical problems that

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students might encounter in a profession. This finding is consistent with the literature on teaching and learning in the disciplines (Lattuca, 2001; Neumann, 2001; Neumann, Parry, & Becher, 2002) and on disciplinary or engineering communication (Abbott & Eubanks, 2005; Artemeva, Logie, & St. Martin, 1999; Bergmann, 2000; Carter, 2007; Dannels, 2000; Freedman & Adam, 1996; Gopen & Swan, 1990; Pawley, 2009). Both instructors characterized the technical reports as tools for documenting that problem-solving process.

The history professors' writing identities were demonstrably tied up in their approaches to teaching. Mr. Francis explained that microhistory, the historical subgenre, influenced his approach to his teaching and his own writing for the same reasons (namely, that narrative was an engaging way to make strong historical arguments). The interplay between Dr. Oliver's writing self and teaching self was clearly visible because her book was published the semester I collected data, and she brought the book in to her class to offer a model and inspiration to students. Mr. Capello and Dr. Pesek, however, downplayed or did not acknowledge their own current writing identities, in spite of the fact that both participants engaged regularly in "everyday writing" (Lea & Stierer, 2009), and in spite of Mr. Capello's powerful academic experience in his technical writing course. This finding contributes to the understanding of the connection between teachers' literacy and teaching practices (Cremin, 2006; Cremin & Baker, 2010; Lea & Stierer, 2009) and also indicates that discipline mediates that connection. These cases indicate that there are relationships among the discipline's general orientation to literacy, the instructors' identification as writers, and their approaches to teaching writing.

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Educational Ideology

Across cases, educational ideology was reflected in instructors' teaching of writing, and again, the approaches differed along disciplinary lines. Professors Francis and Oliver both indicated that a college education is a means for "broadening horizons" and for cultivating students' critical thinking and literacy skills. These views were reflected in the centrality of writing in their courses, and in their efforts to get students to "confront" new ideas and ways of thinking through their writing.

The engineering instructors, conversely, conveyed an instrumentalist, and at times outright vocational, view of college. Both instructors constantly referred to industry, and Mr. Capello emphasized education as "preparation for the work force, preparation for graduate school, if that's the path. Whatever it is, preparation for law school, whatever it might be." These views manifested themselves in the instructors' emphasis on "professional tasks and genres" throughout the courses (Poe, Lerner, & Craig, 2010, p. 19).

Research on teaching and learning in higher education indicates that various disciplines emphasize "professionalization," which is the concern for "developing aptitudes and skills relevant to the real world of work" (Fanghanel, 2012, p. 8). Professionalizing or "production ideologies" (Fanghanel, 2012) are most evident in disciplines that are "externally generated," or that have reference to "the world that lies beyond" the confines of academia (Becher & Trowler, 2001, p. 171). Stark et al. demonstrated, for example, that professors in "hard" disciplines valued "vocational development," whereas humanities and social sciences professors prioritized "personal enrichment" (1986, p. 48), which reinforces the notion that educational ideology often aligns with disciplinary boundaries. Engineering is commonly identified as a

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quintessentially professionalizing discipline (Fanghanel, 2009; Matthew & Pritchard, 2009).

This study and future research like it would benefit from a more nuanced understanding of the “educational ideology” factor that does not treat personal development and professional preparation as dichotomous. Their broad aims for professionalization did not account for the subtle difference between Mr. Capello and Professor Pesek’s writing goals, which points to a problem with the professionalizing ideology that Matthew and Pritchard identify as the “balance between education and training” (2009, p. 60). That is, while Professor Pesek appeared to be more concerned with “training students for the world of work,” Mr. Capello appeared more concerned with “educating them in the subject matter” (p. 61), or teaching students to develop critical thinking skills that are grounded in the discipline. This distinction within what is commonly viewed as a singular purpose can mean the difference between framing a writing assignment as a vocational skill, and as a tool for understanding a professional process, or for developing a professional identity. Therefore, while the variable as I have used it for this study has been useful for capturing instructors’ overall views about the purposes of education, a more nuanced use of broad ideological categories may help writing researchers better understand why instructors who may share broad educational ideologies frame writing assignments in different ways.

Departmental and Institutional Norms

During analysis, the norms and expectations of the department, institution, and accrediting body emerged as a salient influence on the engineering instructors, but not on the history instructors. This influence took the form of the departments’ standardization

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of curriculum in their attempts to ensure students all built the same knowledge base. Institutional influence was also evident in Professor Pesek's regular allusions to the requirements of ABET, the school of engineering's accrediting body—he made these allusions to me verbally, but ABET standards were also spelled out explicitly for students in course syllabi. The necessity of a standardized curriculum and of explicit adherence to accreditation speaks to the discipline's correspondence to the “world of work” (Fanghanel, 2012, p. 8). Engineering is a highly “technical” discipline where “product design is a central practice that is multifaceted, interdependent, and characterized by the centrality of the professional-customer relationship” (Dannels, 2000, p. 8). Therefore, communication processes must be universal across different parties, and the clarity and specificity of communication even has implications for safety, as research into the Challenger disaster shows (Reynolds, Thaiss, Katkin, & Thompson, 2012; Walker, 1999; Winsor, 1990). Conversely, the norms and expectations of the history department were minimal, and Drs. Francis and Oliver both claimed they were free to teach whatever and however they wished. I have posited that the department is much more hands-off about how and what faculty teach in part because history does not have “much pretense to practical application beyond the classroom” (Carter, 2007, p. 400), and students do not therefore need to learn standard genres and skills.

Summary of Key Findings

Two significant findings emerge from this cross-case analysis of factors that influence writing instruction. First, instructors' academic biographies, disciplinary identities, and educational ideologies are all salient influences on the history and engineering instructors' approaches to writing instruction. Second, the factor of

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departmental and institutional norms and expectations has an influence on engineering faculty's writing instruction, but not on history faculty, which indicates that the knowledge frameworks and educational purposes of a discipline can be meaningful in determining the extent to which external variables shape an individual instructor's approach to teaching writing.

Utility of the Conceptual Framework

In response to the study's third research question, this section addresses the utility of the conceptual framework used in this study. Based on the study's findings, I propose the following modifications to the framework: a refinement of the conceptual relationships among factors, the re-naming of Disciplinary Identity, and the addition of a fourth variable (see Figure 3 for diagram of the refined framework).

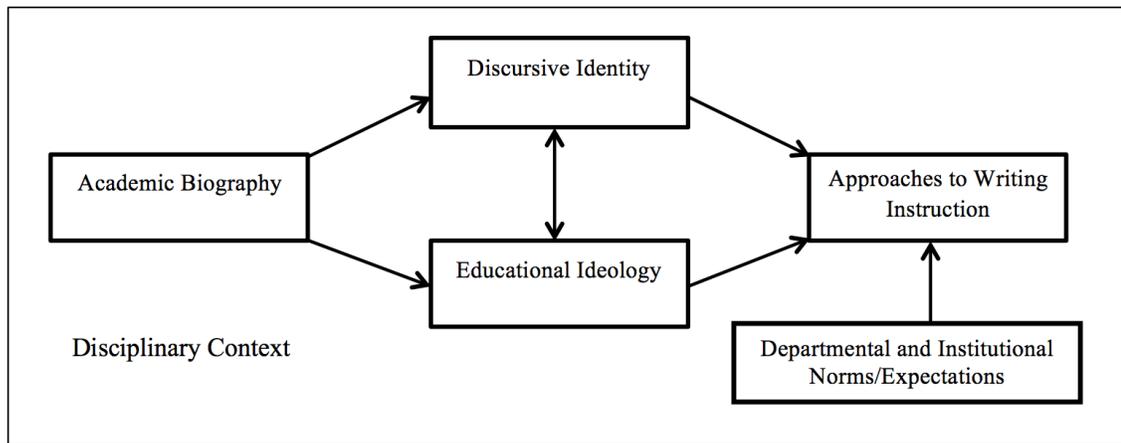


Figure 3. Refined Conceptual Framework

Relationships Among Factors

Proposed changes to the relationships among factors include a re-positioning of Academic Biography and a refinement of the relationship between Disciplinary Identity and Educational Ideology.

Position of academic biography. Literature in the field of education argues that teachers develop their conceptions of content knowledge and of teaching when they are students (Britzman, 2003; Grossman, 1999; Holt-Reynolds, 1992; Lortie, 1975; Shulman, 1986). Applying that theoretical position within a study on writing instruction makes a meaningful contribution to composition research—and to WAC/WID research in particular—because it enables an accounting of teachers’ early conceptions about writing, as well as their conceptions about what it means to learn to write. The contribution to research on WAC/WID instruction may be particularly meaningful because under study are disciplinary faculty who in many cases did not have formal training in writing, or in writing instruction. Much of the literature on faculty development for writing instruction investigates faculty who engage in in-service workshops (Bertch & Fleming, 1991; Fulwiler, 1989; Maimon, 1982), but this study and the literature I cite above demonstrate that conceptions about writing and writing instruction can be solidified much earlier in a teacher’s career. Academic biography is therefore an important theoretical tool for explaining instructors’ approaches to writing. Researchers can enhance the value of this variable by developing methodological tools that can capture data to supplement participants’ self-reported academic experiences.

For all its value, I propose a conceptual re-positioning of this variable within the framework. I developed the three factors of my orienting conceptual framework as separate and equal influences on writing instruction. This was an error in framing, and the first refinement I propose is to place academic biography as conceptually and chronologically prior to the other two variables. While participants’ experiences as students shaped their approaches to teaching writing in varying ways, the influence of

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academic experience was uni-directional for all participants (i.e., participants' academic biographies influenced other entities in the framework, but not vice versa). Re-positioning the factor enables us to see how participants' past academic experiences mediate their current disciplinary identities and educational ideologies.

Relationship between disciplinary identity and educational ideology.

Participants' disciplinary identities and educational ideologies seemed to interact more with each other than they did with academic biography, and in ways that were sometimes difficult to account for. Participants' views about the purposes of a college education, for example, were rooted in their disciplinary frameworks. That is, historians viewed education as a means for personal and literacy development. The two engineering faculty who worked in an applied discipline had decidedly firm views about college as preparation for a profession. Views about the purposes of education seemed to shape participants' understanding of the roles of the discipline and of discourse, which manifested in writing instruction. Those participants who took a vocational view assigned professional genres in their courses, and those who had less defined conceptions of their students' futures post-graduation assigned academic genres, or disciplinary genres that served generalist purposes (like the historiographical essay). Because of the intertwined relationship between disciplinary identity and educational ideology, I propose another refinement to the conceptual framework, which is to show the bi-directional influence between these two variables. Researchers investigating disciplinary faculty who teach writing may profit from attending to the ways that instructors' disciplinary frameworks instantiate their beliefs about education and vice versa. Some higher education researchers have examined the ways that disciplines "filter" faculty's approaches to

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teaching (Fanghanel, 2009, p. 565; see also Quinlan, 1997), and this change to the framework affirms that work.

Re-Naming of Disciplinary Identity

A second proposed change to the conceptual framework is to re-characterize and re-name the disciplinary identity factor. I came to this study aware that discourse is distinct across disciplines (Hyland, 2009), and my findings confirm that disciplines have distinct systems of communication that can be linguistic and non-linguistic. These findings align with the research that posits that scientific disciplines such as engineering have “developed entire systems of symbols that differ from ordinary language,” whereas other soft disciplines, like history, “use general language but imbue common words with particular meanings” (Lattuca, 2001, p. 30).

I found that looking at faculty’s disciplinary identities specifically in terms of their literacies was most useful to this study’s aims. As the dimensions of disciplinary identity that were most relevant to this study came into relief, I determined that what I was studying was how faculty’s use of and beliefs about *discourse* instantiated their relationships to their discipline. In particular, I examined how faculty used texts and communication to carry out the principles of a discipline, how knowledge served certain purposes, and how their *own* writing practices helped them frame (or model) writing to their students. Therefore, I propose re-naming disciplinary identity as *discursive identity*, which still encompasses the notion of one’s role in a discipline, but also highlights language and communication. Brown, Reveles, and Kelly (2005) proposed the construct of a discursive identity in the realm of science education. They write that a “*discursive identity* reflects the understanding that speakers select genres of discourse with the

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knowledge (tacit or implicit) that others will use to interpret their discourse as a signal of their cultural membership” (Brown, Reveles, & Kelly, 2005, p. 783; emphasis in original). The findings of this study align well with the authors’ definition in that instructors’ characterizations of (and production of) texts illuminated what kinds of knowledge were required for “membership” in the discipline. Consequently, this study demonstrates that the construct holds in the disciplines of history and engineering.

Addition of Fourth Factor: Departmental & Institutional Norms

During my analysis, the norms and expectations of the department, the institution, and the field as a whole emerged as an influence on the engineering faculty’s writing instruction. That the external expectations of the department, and in one case, the school’s accrediting body, was a salient influence on one discipline but not the other demonstrates how external influences can operate along disciplinary lines. The standards of the Accreditation Board for Engineering and Technology (ABET) had a particularly noteworthy influence on one of the engineering professors with regard to writing instruction, which is consistent with the literature on communication in engineering (Carter, 2007; Russell, 1990; Williams, 2001). Future research would benefit from an analysis of the extent to which accreditation criteria influence schools of engineering at the department, course, and instructor level. Accordingly, I propose a fourth factor—departmental and institutional norms—for the conceptual framework, which may help future researchers to understand in greater detail the exigencies under which instructors operate.

Conclusions

The purposes of this study are three-fold. First, it characterizes and compares faculty's approaches to writing instruction in history and engineering. Second, it assesses whether and how certain theoretically grounded factors influenced those approaches. Third, it evaluates the utility of the conceptual framework that contains those factors. The four faculty-participants in this study provide information-rich cases (Patton, 1990) of disciplinary writing instruction in that they had extensive experience teaching and assigning writing in their disciplines, and offered candid reflections, histories, and documents that enabled me to construct thick portrayals of their instructional approaches. Based on findings from individual cases and from cross-case analysis of instructional approaches and the factors that influence those approaches, I have derived a set of conclusions in response to each of the study's main research questions. These conclusions address the nature of writing instruction in history and engineering; the influence of academic biography, disciplinary identity, and educational ideology on instructional approaches to writing; and the utility of the conceptual framework developed for this study.

Conclusion 1: Approaches to Writing Instruction

Faculty in history and engineering approach writing instruction in fundamentally different ways. These different approaches manifested in faculty's writing assignments, their goals and strategies for teaching those assignments, and in their approaches to feedback and assessment. These differences in approach were particularly noteworthy in light of their generic and discipline-specific learning goals, and their subsequent uses of academic and disciplinary genres. In history, faculty treated writing as a means to generic

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knowledge, literacy, and critical thinking skills, and they employed mainly academic genres to achieve those goals. Even when they employed disciplinary genres, these genres were open-ended in form, and were intended to facilitate non-disciplinary learning. In engineering, faculty treated writing as a professional skill in and of itself, and as a means to preparation for the profession. They employed disciplinary genres almost exclusively, in addition to some academic genres that served those professionalizing goals. One engineering instructor took a multifaceted approach to writing in that he wanted the writing assignments to serve as a means to learning, though this approach was secondary to his professionalizing goals. The respective approaches of the instructors in this study are consistent with, and provide confirmation of, the literature on college writing instruction in history and engineering.

Conclusion 2: Factors Influencing Approaches to Writing Instruction

The faculty's writing instruction was shaped by their academic biographies, disciplinary identities, and educational ideologies. These factors enable us to ascertain how, when instructors were students, their experiences (or lack thereof) with literacy and with formative teachers echoed in their own teaching. The factors enable us to see how instructors' situatedness within a discipline and their views of knowledge, as those views are manifested through texts and discourse (including the texts they themselves produce), shape the ways they assign and assess writing in their courses. And the factors enable us to see how instructors' views about the purposes of higher education shape their framing of writing and discourse.

Conclusion 3: Utility of the Conceptual Framework

The conceptual framework that I have developed for this study accounts for all instructors' approaches to writing instruction, but did so incompletely. For that reason, I have proposed the following refinements to the framework: altering the positions and relationships of the factors, re-naming the disciplinary identity factor as "discursive identity," and adding a fourth factor that accounts for the norms and expectations of an instructor's department or institution.

The framework is a valuable theoretical tool for understanding the nature of disciplinary writing instruction, and may be useful for future research of its kind. It has enabled me to demonstrate that, irrespective of discipline, instructors develop schemas for writing instruction based on their past experiences as students, their current disciplinary roles, and their ideological stances about education. The framework enables us to logically investigate the "different worlds" that faculty inhabit (Salem & Jones, 2010, p. 78) because it helps us to see "what happens to them and what it is that structures their practices" (Britzman, 2003, p. 70).

Implications for Future Research

This study has several implications for future research. First, it prompts the need for similar research in other disciplines and institutions. Second, it prompts the need for data that account for the student perspective. Third, it prompts an investigation of some of the conceptual issues that were beyond the study's scope, such as instructors' tacit knowledge of disciplinary norms.

First, as I described in this study's limitations, this research investigates four faculty in two disciplines at one institution. Though its findings are consistent with the

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related literature, to my knowledge this study is the only one that applies this framework to this phenomenon. Therefore, the body of WID research would profit from similar investigations of other disciplines, and of other institutions, to see if approaches to writing instruction and the factors that influence them hold across contexts.

Second, future investigations of approaches to disciplinary writing instruction will benefit from the student perspective. Writing instruction is not a uni-directional phenomenon, but a social interaction (Prior, 2006). Bawarshi eloquently describes the teacher-student interaction in the context of learning to write:

Invention takes place at the intersection between the acquisition and articulation of desire. When teachers assign students a writing prompt, they position students at this intersection so that part of what students do when they invent their essays involves recontextualizing the desires they have acquired as their own self-prompted desires to write. (2003, p. 141)

This study has identified and analyzed instructors' aims for students' writing, and their attempts to position student-writers through their discussion of writing and their use of documents like syllabi, writing prompts, and rubrics. An important extension of that investigation is an understanding of how students take up and respond to teachers' "articulations" about the nature and purpose of writing, and whether and how their writing skills transfer to new contexts.

A third suggestion for future research comes out of the second. Within some of the cases, I observed that some of the instructors' characterizations of the generic nature of writing in their courses hinted at their tacit knowledge of discourse in their fields. Tacit knowledge is "that particular kind of understanding which is so taken for granted by those who possess it that it is never explicitly taught, but has instead to be acquired by sustained involvement in the relevant cultural milieu" (Becher, 1987, p. 262; see also

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Elton, 2010; Giltrow & Valiquette, 1994). When instructors frame their writing assignments as “generic,” or as leading to universally transferable skills, I expect that they may not always acknowledge some of the disciplinary traits within those assignments. The body of WID research would benefit from investigations involving “patient and long-term” participant observations, which may get at instructors’ tacit knowledge in ways that self-reported data obtained through interviews cannot (Becher, 1987, p. 262).

An exploration of instructors’ tacit knowledge also has implications for the related issue of transfer. As researchers acknowledge, students do not always successfully transfer writing skills from one context to another (Alexander, 1999; Smit, 2007; Wardle, 2007). If instructors are only tacitly aware of some aspects of writing and discourse, they may teach these elements inexplicitly and provide students insufficient preparation for skills transfer. Researchers have begun to develop instructional strategies that improve “students’ abilities to recognize and articulate rhetorical differences among disciplines” (Wolfe, Olson, & Wilder, 2014, p. 45). This study contributes to that effort with its framework for understanding the historical, disciplinary, and ideological aspects of instructors’ approaches, which can inhibit or facilitate transfer. Future research on disciplinary writing instruction must continue to attend to instructors’ assumptions about transfer, and the factors that shape and perpetuate these assumptions.

Study Summary

University faculty teach writing in a myriad of ways within and across disciplines. Their teaching has important ramifications for students’ writing skills as they graduate and enter the workforce and society, yet researchers do not have a firm grasp of the many

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different forms that writing instruction takes. Ochsner and Fowler (2004) write that, “Crucially missing from WAC/WID theory is a clear indication of what it means to teach writing” (2004, p. 134). Without a more systematic understanding of the ways that faculty teach writing in their disciplines, we cannot fully understand how—or whether—students learn to write.

In an attempt to address this gap in the literature, this study has developed, applied, and expanded upon a model for better understanding the phenomenon of disciplinary writing instruction. The four instructors under investigation in this study have shown that teaching writing is a complex business, but they have also demonstrated that certain aspects of their histories, identities, and ideologies can clarify why they approach writing instruction the way they do. This knowledge offers a foundation for continued research of its kind on more faculty, more disciplines, and more institutions. My hope is that through a richer understanding of faculty’s writing instruction, writing researchers and program administrators can better support and advocate for those who endeavor to teach their students to write.

Appendix A: Glossary

Academic genre: A form of writing that is used only, or primarily, in academic contexts. One of the most common academic genres is the essay. Academic genres are often presumed to be “generic” or “universal,” in that they can be employed across disciplinary contexts. (Cf. Carter, 2007)

Disciplinary genre: A text that takes the form, and fulfills the purposes, of a particular discipline. Disciplinary genres may also be professional genres, but instructors may also assign a disciplinary genre without overt pretensions to its professional uses.

Discourse: A set of communication modes, linguistic or otherwise, used within a community or discipline. A person’s facility with the discourse of a community usually signifies his or her membership in that community.

Genre: A textual form that is defined by a) its formal features and conventions, and b) its relationship to a given context, which gives its textual features unique meaning.

Instructor: Any teacher of college courses, irrespective of professional status.

Professional genre, or Proto-professional genre: A form of writing, assigned within an academic context, that resembles or duplicates a form of writing used in a professional field relevant to the discipline in which it is assigned.

Writing: A medium of communication that uses language to represent meaning for a specific purpose. For the purposes of this study, “writing” includes other forms of composed communication, such as oral presentations and homework problems.

Writing instruction: The communication of writing norms, conventions, and expectations between instructor and student. Instructor’s communication may be explicit or implicit, oral or written, and may occur prior to a writing assignment or afterward (i.e., as feedback).

Appendix B: Participant Recruitment Letter

Dear _____ ,

My name is Megan Callow and I am a doctoral student in the department of Teaching and Learning, Policy and Leadership in the College of Education at the University of Maryland. For my dissertation research I am conducting a case study on instructional approaches to writing in the disciplines, and would like to invite you to participate. I am seeking faculty participants in the discipline of history/engineering who are themselves published authors and who teach writing in their courses. I learned from _____ that you fulfill these criteria, and I therefore believe you have a lot of insight to contribute to my study. Though your participation will entail a commitment of time and reflection, I hope you will consider that I am attempting to recruit you because you are a model for writing instruction in history/engineering, and that your contributions to this study may ultimately help researchers in their efforts to improve writing instruction across college disciplines.

I will be collecting data for my study over the course of the Fall, 2014 semester, and data collection will entail the following participation from you:

1. I will ask you to engage in three semi-structured interviews lasting one hour each. These interviews will be staggered over the course of the semester (one in the beginning, one in the middle, and one at the end of the semester), and will take place in your office. During these interviews I will ask about your discipline, your history as a student of this discipline, the discourse of your discipline, and your teaching of writing.

2. I will ask to collect and analyze any documents that you provide to your students for any course(s) you teach during the Fall, 2014 semester. These documents might include course syllabi, writing assignment prompts, feedback on student writing, or any other text generated by you for your students.

3. I will ask you about the feasibility of conducting occasional observations of your class(es). I am particularly interested in observing your class(es) on days when you discuss writing—these discussions may include analyses of course texts, overviews of writing assignment requirements before they are due, or feedback on days when you are returning writing assignments. If you do not discuss writing at all in your classes, then we may mutually determine that class observations are not necessary.

The total investment of time required of you, including email or phone correspondence (to exchange documents and coordinate meetings) and interviews, is unlikely to exceed five hours over the course of the semester.

Participation in this study is voluntary. You may choose not to participate; if you do choose to participate, you may terminate participation at any time during the course of the study. Participation entails no overt risks to you, though reflecting on your own history as a student and as a teacher may cause some slight discomfort at times.

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Participation in the study may also have an indirect benefit to you, in that reflectivity can help improve professional practice. Also, any information you provide me will be kept confidential and all data will be stored on my personal, password-protected computer. In my dissertation report, all identifying information about you, your course(s), and your institution will be eliminated or sufficiently masked. Identifying information about your students will not be collected at all.

I hope you will consider participating. Please let me know if you would like to further discuss your involvement in the study. I would be happy to come introduce myself in person and answer any questions you have.

Most sincerely,

Megan Callow

PhD Candidate, English Education
Teaching and Learning, Policy and
Leadership
College of Education

Appendix C: Participant Consent Form

Project Title	Going to the Source: A Proposed Case Study of Four Faculty and Their Approaches to Writing Instruction
Purpose of the Study	This research is being conducted by Megan Callow at the University of Maryland, College Park. I am inviting you to participate in this research project because you are a veteran faculty member in the history or engineering department at [school name redacted] who is a published author, and who incorporates writing in your instruction of undergraduate students. The purpose of this research project is to better understand instructional approaches to writing in college disciplines.
Procedures	The procedures involve 2 or 3 forms of data collection, depending on the circumstances of your course. 1. You will be asked to engage in 3 1-hr. semi-structured interviews over the course of the semester. These interviews will be recorded and transcribed; all audio and text files will be stored on my personal, password-protected computer. 2. You will be asked to provide any documents you have generated for the students in your courses (such as course syllabi, writing assignments, rubrics, etc.) for document analysis. 3. If you and I determine that it is feasible and relevant, I will ask for your permission to observe your classes on days when you discuss writing assignments (e.g. on days when you describe an assignment's requirements, or on days when you are handing back an assignment and will discuss feedback). If you do not discuss writing in class or if it is not logistically feasible, I will not conduct observations of your classes.
Potential Risks and Discomforts	There may be some minor risks from participating in this research study. During interviews I will ask you to discuss memories of learning to write, and to discuss your pedagogical attitudes and practices. These discussions may at times cause some discomfort due to the personal nature of teaching and learning. However the interviews are semi-structured and you will never be pushed to answer any questions that cause discomfort.
Potential Benefits	There are no direct benefits from participation in this research. However, possible benefits include self-reflection on teaching practice that may lead to improved practice. If you like, I can also provide suggestions or thoughts about how to improve writing instruction. I hope that, in the future, other people might benefit from this study through improved understanding of approaches to writing instruction not just in your discipline but across college disciplines.
Confidentiality	Any potential loss of confidentiality will be minimized because I will store all interview recordings and transcripts, course documents, and observation notes in a password-protected Dropbox folder on my computer. Before saving any study-related documents to my computer I will first remove any identifying information from transcripts and documents.

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	<p>When I write a report about this research project, your identity as well as the identity of your course and of the institution will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p> <p>After a period of 7 years or until I no longer need the data to use for the purposes of my own research and publication (whichever comes first), I will destroy all the data I have collected for this study.</p>
<p>Right to Withdraw and Questions</p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p style="text-align: center;">Megan Callow Teaching and Learning, Policy and Leadership College of Education 2311 Benjamin Building College Park, MD 20742 415-359-7157 mcallow@umd.edu</p>
<p>Participant Rights</p>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount Hall College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>
<p>Statement of Consent</p>	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p>

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	If you agree to participate, please sign your name below.	
Signature and Date	NAME OF PARTICIPANT [Please Print]	
	SIGNATURE OF PARTICIPANT	
	DATE	

Appendix D: Interview Guides

Conceptual Domain	Question (<i>plus potential probes in italics</i>)
Interview 1	
Discipline Academic History	What first drew you to history/engineering?
Discipline Academic History	I'd like to learn about the context of your training as a historian. Can you think of a standout teacher in undergrad, a standout teacher in grad and compare them? <ul style="list-style-type: none"> • <i>It sounds like prof. so and so had certain values about history...</i>
Discipline Academic History Discourse	Did you have to write a lot as an undergraduate? As a graduate student?
Discipline Academic History Discourse	Describe a formative writing experience you had in your doctoral work. <ul style="list-style-type: none"> • <i>What about this experience solidified or illuminated your role as an expert in the discipline?</i>
Discipline Discourse	I asked you to think of an exemplary text or two from your discipline. What about this text makes it an example of good writing in your field?
Discipline Discourse	Name the three forms or genres of writing that are most often used in your field. <ul style="list-style-type: none"> • <i>How do these forms shape or contribute to the discipline's body of knowledge?</i>
Discourse	What forms of writing do you publish or seek to publish now? <ul style="list-style-type: none"> • <i>I notice that these forms do not match the genres you cited before as used often in your field. Why not? (if applicable)</i>
Discourse Educational Ideology	You were just telling me about the dominant forms of discourse in your field. Do these genres play a role in your course?
Teaching Practice	<i>If not answered above, What kinds of writing do you assign in your course?</i> <ul style="list-style-type: none"> • <i>Follow up question for later interview: I notice that the genres you cited as dominant in your field are not the same types of writing you assign in your class. Why is that?</i>
Educational Ideology	What are your goals for assigning these forms of writing?
Discourse Teaching Practice	Are there any parallels between what you write and the kinds of writing you assign?
Discourse Educational Ideology	Some instructors view and teach writing as a general, universalized skill (i.e. all academic writing follows a certain set of rules), and some see it as highly discipline-specific (i.e., writing in

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	science is very different from writing in art history). Where do you fall on this continuum?
Interview 2	
Discourse Teaching Practice Educational Ideology	How is the semester going? Have your students submitted any writing in your course(s) so far? Are you mostly pleased with it, or has it been disappointing to you? <ul style="list-style-type: none"> • <i>What specifically about it are you happy with/disappointed with?</i>
Teaching Practice	In our last interview you told me you assign <i>x,y,z</i> kinds of writing in your course. How did you come up with these assignments? <ul style="list-style-type: none"> • <i>How have you modified these assignments in the past, or how might you modify them next time you teach?</i>
Discourse Teaching Practice	<i>If applicable</i> , I notice that types of writing you assign in your class are different from the genres you cited as dominant in your field in our last interview. Why is that? <ul style="list-style-type: none"> • <i>Re-state the genres cited in last interview, if necessary</i>
Discourse Teaching Practice	When you discuss the writing assignments in class with your students, what do you say? <ul style="list-style-type: none"> • <i>What other kinds of guidance do you give?</i>
Contextual Factors Teaching Practice	Does your department require or encourage you to assign a certain amount of writing, or certain types of writing assignments? <ul style="list-style-type: none"> • <i>How do you respond to these requirements? (if applicable)</i>
Contextual Factors Teaching Practice	Are there any other influences or constraints on the ways that you teach and assign writing? What are they? <ul style="list-style-type: none"> • <i>Would you teach writing differently if these influences were not in place (if applicable)?</i>
Educational Ideology	What do you view as some of the main purposes of an undergraduate education? <ul style="list-style-type: none"> • <i>Do you envision it as a development process that is intellectual, personal, professional, or otherwise?</i>
Educational Ideology Discipline	How do your course and your discipline contribute to those goals?
Interview 3	
	It's the end of the semester. Do you have any general reflections about how the course went in general, and how your writing instruction went in particular?
	At this point I'd like to present you with some outlines of your responses to me over the last three interviews pertaining to your own academic history, your writing practice, and your writing instruction. Would you mind looking over these and telling me if they accurately represent you? Is there anything you'd like to modify or add?

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	Do you have any last reflections on how you approach teaching writing in your courses, or anything else you'd like to tell me?
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