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A Nexus of Literate Activity: The Design of Writing Assignments in the Disciplines

Lauriellen Stankavich
Old Dominion University, lstankavich@southern.edu

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THE DESIGN OF WRITING ASSIGNMENTS IN THE DISCIPLINES

by

Lauriellen Stankavich
B.S. June 1990, Andrews University
M.A. December 1993, University of Texas at Arlington

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Approved by:

Louise Wetherbee Phelps (Co-Director)

Michelle Amato-Fowler (Co-Director)

Staci Defibaugh (Member)

Andrea Williams (Member)

ABSTRACT

A NEXUS OF LITERATE ACTIVITY:
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Lauriellen Stankavich
Old Dominion University, 2022
Co-Directors: Dr. Louise Wetherbee Phelps
Dr. Michelle Fowler-Amato

Writing plays a critical role in higher education as students are inducted into disciplinary practices through different genres, methodological repertoires and argumentation strategies. In Writing Across the Curriculum (WAC) initiatives, the instructor serves as an embodied reservoir of disciplinary knowledge and an arbiter of literate practices but most crucially employs the mediating capacities of the writing assignment as a potent pedagogical nexus. In this practice space, the instructor acts as designer of the pedagogical experience—the course as a whole and writing assignments in particular. This study used interviews, survey, and the collection of syllabi and other instructional artifacts to examine the design thinking by instructors of upper division writing-emphasis courses at one private institution. Coding and close analysis of interview data compared with the survey and instructional artifacts demonstrated that disciplinary influences, absorbed from the instructor's own disciplinary socialization and reinforced by professional interactions, strongly influenced writing assignments while institutional and personal factors also played a role in enabling and constraining design. The data also informed a model of how time may shape design practices, using concepts that owe some debt to practice theory, rhetorical genre theory, mediated discourse analysis, writing across the lifespan, and new materialism. For instructors at the target institution, time shaped design thinking in at least two ways, first, in generating a reservoir of experience at the personal and

institutional level, and second, through the operation of intersecting time cycles on multiple scales that shaped both personal and institutional life.

This dissertation is dedicated to my father, Joseph R. Stankavich, who demonstrated the joys of a curious mind and inspired me to intellectual pursuits. He was my greatest cheerleader as I began my doctoral journey and although he did not live to see me complete it, his support sustained me throughout.

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I thank my family for your love and grounding. In my high school tribute I spoke of the intellectual heritage I was so grateful to have inherited. Let me reiterate that gratitude now. Mom and Dad, you taught me to love God with my heart and soul, but above all, with my mind. While not trained as scholars, you were well-read and avid learners, traits that you passed on to me. I also appreciate your faith in me and in my abilities. I also thank Mike, Peter, and my close circle of aunts, uncles and cousins for your interest in my progress. Rolland, I appreciate your kind affirmations. Little doggies, Minchi and Goldie, slumbering in the chair next to me or flopped on the carpet under my feet, thank you for your sweet presence.

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INTRODUCTION

> It can be the ordinary elements of a life—not the one moment of tragedy or melodrama or heroism—that turn out to offer the most meaning, because they happen over and over again, forming the person.
>
> —Philip Gerard, *The Art of Creative Research*

> Time, this sort of time, part personal, part vocational, part political, part (whatever that might mean) philosophical, does not flow like some vast river catching up all its tributaries and heading towards some final sea or cataract, but as larger and smaller streams, twisting and turning and now and then crossing, running together for a while, separating again. Nor does it move in shorter or longer cycles and durations, superimposed one upon another as a complex wave for an harmonic analyst to factor out. It is not history one is faced with, nor biography but a confusion of histories, a swarm of biographies. There is order in it all of some sort, but it is the order of a squall or a street market: nothing metrical.
>
> —Clifford Geertz, *After the fact: Two countries, four decades, one anthropologist*

Designing a graduate course in educational facilities, a professor drew on experiences as a school administrator and superintendent, added know-how she picked up from a builder father, and brought in memories of constructing her own home as an adult. To this wealth of experience, she added extensive online and library research to build a prototype version of the course. Later, she used feedback from the first cohort of students to improve the course. Much easier was the design of an undergraduate course that she inherited from another teacher, in this case, keeping the core objectives and retaining the major writing project while making adjustments to the style of instruction. Examining her syllabus, we can see traces of other and more distant influences. Each course objective has a code pointing to the conceptual framework defined by the school, laid out in state licensure requirements, or drawn from standards set by a national educational consortium. This professor's courses are not unique. Every university course represents a

tangled skein of influences drawn from the past, tied together in the present, and poised to be threaded into the future.

Writing as a uniquely human activity emerges within a complex system, as Cooper (2019) argues, shaping and arbitrating human activity but never simply limited to human cognition and will. To examine writing is to explore a whole ecology. The design of writing assignments is an act of composing folded within a larger ecology.

I started my dissertation journey with glimpses of this reality, carrying a few theoretical tools to render the landscape visible and comprehensible. But like many good journeys, I discovered as I pushed aside the first branches, trying to avoid the briers, that the journey could be the destination, that the tools for seeing ended up being as interesting as what I had come to find. To put things in direct rather than metaphorical terms, the dissertation that I expected to be an empirical study turned out to be an exercise in theory building. I started the study with a theoretical grounding that proved valuable in calling attention to interesting features of practice. But other theoretical concepts emerged from the data and brought me a rather different experience than I expected. I expected to observe and trace writing practices situated in space, localized in an institution, and practiced by individuals toiling in particular schools and departments. I did not expect to focus on how practices are situated in and shaped by time. These emergent concepts about time came to play a crucial role in the conceptual framework and shifted the purpose of the study to become less of a report on empirical findings and more the elaboration of a theory of practice inspired by my immersion in and the fine-grained analysis of the data. The data helped build the theory but also serves to explicate it. The study, therefore, is best described as a theoretical unfolding of this conceptual framework with illustrations.

Because I compare writing practices across disciplinary spaces, this study joins a body of scholarship investigating writing across the curriculum (WAC) and writing in disciplines (WID)[1]. While my theory of design thinking and literate practices may be applicable to other practice settings, it is appropriate to begin by placing it within the literature of the subdiscipline of writing studies from which it arose.

1.1 Literature review

Writing scholars have come to see writing practices as situated, meaning that in the increasing complexity of a global system linked and interlinked through writing, there are a proliferation of rhetorical situations, each of which calls for demanding and specific literacy competencies. Writing "by its very nature… is local, context specific, dependent on a community for its existence and its meaning" (Russell, 1991, p. 12). Scholars who have looked at writing in business and organizational settings, such as a tax accounting firm (Devitt, 2004), a telecommunications company (Spinuzzi, 2008) and on the internet (Giltrow & Stein, 2009), to give three settings studied, have found that the logic and practices associated with each setting generate markedly different genres and literate practices.

Universities with their variegated disciplinary landscapes represent more than a community of practice but rather a constellation of practices (Wenger, 1998). In a textography of a modest three-story university building, Swales (1998) found great diversity in the texts and

[1] More precisely, WAC refers to programs or initiatives for fostering student writing in and across disciplinary spaces, often supporting instructors' efforts to use writing as a tool for increasing engagement and retention (writing to learn) (Thaiss & Porter, 2010). WID, on the other hand, "usually implies that writing is occurring in some form as assignments in subjects or courses in one or more disciplines in an institution; it also refers to research that studies the theory, structure, and rhetorical properties of writing that occurs in disciplines, whether in teaching the discipline or in disciplinary scholarship" (Thaiss & Porter, 2010, pp. 538-539). In their large-scale survey,of US and Canadian institutions, Thaiss & Porter (2010) used both terms, i.e. WAC/WID. Both terms, in combination or alone, have been used to refer to pedagogy and scholarship in the United States while outside the United States, WID and a synonymous term, *academic literacies*, have been more widely used (Thaiss, 2015). Because the boundaries between the two terms can be fuzzy, the usage has overlapped, and the distinctions are not crucial in this study, I will generally use WAC as the umbrella term.

practices circulating within each area of the building. Likewise, each university discipline connects to a complex system with its own writing practices. Writing extends beyond the disciplines, but the fact that writing is done differently in different disciplines poses disparate demands on students being socialized in and across disciplinary spaces. “Disciplines have particular ways of asking and investigating questions enacted through and demonstrated in writing… it is thus through writing that disciplines… are both enacted and encountered by writers—first as students and then as professionals throughout their careers” (Estrem, 2015). Further, students not only develop through writing but as writers across the trajectory of their academic experience (Thaiss, 2015). These truths provide one exigence for writing across the curriculum (WAC) initiatives on many campuses, as well as a robust strand of research within writing studies, estimated to have generated more than 2400 studies within its first forty years (Russell, Lea, Parker, Street & Donohue, 2009).

One productive strand of research has been to look at writing assignments outside of English and composition classes. The motivation for exploring writing outside of English, for example, was the catalyst for Bazerman’s (1988) investigation into the experimental article as a genre. Several studies aimed to systematically sample writing assignments across the disciplinary landscape. For example, Graves, Hyland & Samuels (2010) examined syllabi at one Canadian liberal arts college to survey quantity and types of assignments as students progressed through the undergraduate curriculum. Graves & Hyland (2017) expanded the original study to include data from a research university and to engage in dialogue with faculty about their expectations and practices. Melzer’s (2014) survey of syllabi across the United States gleaned more than 2000 assignment descriptions and Nesi & Gardner’s (2012) UK study created a corpus of more than 2800 assignments, which they classified under 13 genre families. Other research focused on

disciplinary expectations in writing assignments, such as argumentation and thinking styles (Geisler, 1994; Wolfe, 2011; Wolfe, Olson & Wilder, 2014); meta-genres, or methods for gathering, employing and manipulating knowledge in several disciplines (Carter, 2007), and openness to innovation (Thaiss & Zawacki, 2006).

Other research looked at professors across the disciplines, investigating roles that writing played in their classes and their expectations and beliefs about student writing (Cosgrove & Barta-Smith, 2004; Thaiss & Zawacki, 2006). One classic study, Walvoord & McCarthy (1990), examined instructors and their goals along with student uptake and acquisition.

Examining the student experience of navigating different writing spaces has caught the attention of a large number of WAC researchers. Because first-year writing courses are the gateway to writing in American higher education, both a distraction from and entry into disciplinary writing, many researchers have examined how students transfer knowledge and skills from first-year writing and navigate the diverse expectations of writing in different disciplinary contexts (Herrington & Curtis, 2000; Hilgers, Hussey & Stitt-Bergh, 1999; Johnson & Krase, 2012; McCarthy, 1987; Nowacek, 2011; Yancey, Robertson, & Taczak, 2014). Others have focused on the fostering of disciplinary identity or the assimilation to the expectations and genres of a disciplinary community (Beaufort, 2004, 2007; Berkenkotter, Huckin & Ackerman, 1988; Blakeslee, 1997; Casanave, 2002; Herrington, 1985; Prior, 1998). Finally, some studies have examined students in the transition from disciplinary training to the workplace (Artemeva, 2009; Dias, Freedman, Medway & Paré, 1999; Rai & Lillis, 2013; Schneider & Andre, 2005).

One study that deserves special mention is the Stanford Study, a five-year longitudinal study that followed a group of freshmen through their undergraduate years and one post-graduation year. Along the way researchers collected around 15,000 pieces of writing (Haven,

2009). A strength of this study was in exploring the integration of students' academic and personal selves and the extent to which writing practices crossed these boundaries (Fishman, Lunsford, McGregor, & Otuteye, 2005). The Stanford Study joins a growing strand of research that sees academic writing as just one part of a literacy trajectory that precedes higher education and extends over the lifespan. From this point of view, writing initiatives in higher education are more than pedagogical interventions because they proceed as entwined with learners' prior practices and lived experiences as part of a larger arc of socialization within a tapestry of literate practice.

Many WAC studies have viewed individuals, whether professor or students, in narrow ways that fail to take into account the diverse and divergent literacy histories that they bring to new writing contexts and that inevitably play a role in the way that writing experiences are understood and enacted. The Stanford Study challenged the narrow view, and other researchers have broadened our vantage point further. For instance, Prior & Shipka (2003) conducted interviews with twenty-one academic writers, ranging from undergraduates to professors conducting research, and traced how the literate practices of these individuals crossed personal and institutional boundaries. Since then, researchers in this strand of writing studies have traced the trajectory of literate practices across different domains of school, personal and workplace experience (Roozen & Erickson, 2017; Roozen, Woodard, Kline, & Prior, 2015; Smith & Prior, 2020).

The current study joins the tradition of looking at literate practices within wider ecologies of writing, where boundaries between domains such as academic and personal are not hard and fast. Assignment design is especially interesting because acts of design generate further literate action by calling forth the composing work of students. WAC scholarship rests on the premise

that disciplinarity shapes texts and writing practices, but it is to a great extent instructors' own literacy experiences, both disciplinary and non-disciplinary, that they bring bear when designing assignments, which, in turn, serve as an interventional and mediating node within a complex ecology.

As we have seen, WAC scholarship has examined writing assignments in various ways, but few studies have focused on the design process. Many experiential reports allude to the thinking behind a specific assignment design but do not systematically study design thinking. A good example is Soliday (2011), who describes the process engaged in by instructors from several different fields working with writing fellows to design new assignments or improve assignment designs. However, the design of writing assignments may be seen as a nexus of literate activity on its own account, that is, as an act of creative agency by the instructors who invent and reinvent assignments for their own pedagogical purposes. Besides the current study, only one other WAC study takes design as an object of study, and that is Polk (2019), who interviewed 33 instructors of writing-intensive courses, asking them to describe their design decisions and examining the influences on their decisions as disciplinary, institutional, pedagogical, or personal.

While less common in the WAC literature, positioning teachers as designers has become popular in the larger field of education, particularly at the elementary and secondary level (see Panke, 2019 for a review) where it is usually conceptualized as a mindful, research-driven classroom intervention. (See, for instance, Fowler-Amato & Warrington, 2017.) It has been less common to use design as a way to conceptualize the thinking that instructors in higher education normally do as they plan courses and imagine appropriate assignments at the undergraduate level. However, several educators have created models of course planning that promote a

productive and systematic design process, working from course goals and learning outcomes. (See, for example, Wiggins & McTighe, 2008). While the call to apply design thinking to course planning makes intuitive sense, a limited amount of research has investigated how professors do, in fact, plan courses and even less work has looked at the design of discrete assignments within a course. Some studies, such as Clark & Yinger (1977), have looked at teacher planning in a general way. A few studies have looked at the thinking and beliefs of university instructors in relation to the process of teaching, including planning. For example, Martin, Prosser, Trigwell, Ramsden, & Benjamin (2002) investigated how 26 university instructors conceptualized, planned and taught a subject, Hora & Ferrare (2013) examined planning practices for undergraduate math and science courses, and Stark (2002) looked at how undergraduate instructors across several disciplines planned an introductory class. Bennett, Agostinho & Lockyer (2017) used semi-structured interviews to look at the design process of 30 Australian instructors across different disciplines, one of the relatively few studies that saw course preparation as design work per se.

As a first step in building the conceptual framework for the current study, it might be useful to define *design*. Nigel Cross (2011) views design broadly, arguing that design thinking is "something inherent within human cognition" (p. 3). In his research on how designers think, Bryan Lawson (2014) describes design as "both a noun and a verb," referring to either "the end product or to the process" (p. 3). It is the practice, or process, view of design that drives this study, from the initial (re)mapping of course goals through the construction of specific course tasks to the elaboration of expectations as the assignment is scaffolded for students to the mediational tools used for assessment. Design can also be compared to a rhetorical act, an act of composition, both in its agentic creativity and in that a design makes an argument about the world (Buchanan, 1985).

By examining empirical data about how instructors at one institution conceptualize and design writing assignments across the curriculum, this study illuminates how literate practices operate in a complex ecology. The data demonstrate the value of viewing the instructor as a node within a complex system, where elements circulate over time and leave their marks in memories and objects, where all elements are enfolded within an ecology of literate practice. The following discussion of the conceptual framework lays out the essential elements of the model, but the rest of the dissertation will explain and elaborate this framework, using the data to illustrate each element.

Interview and survey data from university instructors in upper-division undergraduate writing-intensive courses served as the primary data for looking at writing assignments across the curriculum, delving into the assignment design process, exploring the personal, disciplinary and institutional factors that influence an instructor conceptualizing a course, examining how instructors balance writing goals against other goals when setting instructional objectives and preparing course materials, and attending to the mediational tools that shape the design process and scaffold writing instruction within the course. The data show how individual instructors draw the particularities of their own experiences and merge these with the goals, policies and culture of a particular institution at a particular point in time.

The data illustrate design thinking situated in a particular space and shaped by cycles of cultural, institutional, and personal time. When an instructor engages in design at a particular moment in time, they draw on the influences and experiences of the past to conceptualize in the present for an intervention that will shape the future. This may be theorized as a nexus of design, a fulcrum balancing the past and the future.

1.2 Conceptual framework

The university is an institution that generates and manages knowledge, and one of its consequential functions involves the mentoring relationship between professors and students. The university posits this relationship as its raison d'etre, not just to generate knowledge but transmit it, not just to pump knowledge into cultural institutions but to create new producers and consumers of knowledge in a generational passing of the wand. While the university offers a robust scaffolding for knowledge creation and dissemination from labs and libraries to studios and study groups, the professor to student relationship represents the prototypical exemplar of intellectual mentoring. Coming together at this nexus are human agents with lived experiences and intersecting cultures, bringing to bear personal and collective histories, beliefs, prejudices, and impulses. Crucial among these are the formative influences of disciplinary socialization, of lecturers and mentors, of graduate and undergraduate coursework, of hallways and laboratories, a socialization process that takes place over years and becomes the core reservoir for designing one's own courses, assignments, and mentoring practices.

The teacher-to-student relationship exists in any instructional context, casual or institutional. One productive way to view the relationship, what it accomplishes and the particular roles implied by the framing, is to propose the metaphor of exchange. Here it is fruitful to draw on a concept proposed by Scollon (2001), *nexus of practice*. In this phrase, Scollon conceptualizes *practice* as a count noun, applying the idea to specific interactions analogous to an exchange—ordering in a coffee shop, giving gifts, and so on. The concept contrasts with *community of practice* (Wenger, 1998), where practice is used as a loosely-bounded mass noun assumed to occur with a relatively stable collective, often in a particular setting. Nexus of practice, on the other hand, consists of provisional, ad hoc interactions that are "rather loosely

structured as well as structured over time... [which are] like practices themselves… formed one mediated action at a time… always unfinalized (and unfinalizable)" (Scollon, 2001, p. 5). Analogous to the way that rhetorical genre theorists see recurrent writing situations leading to a temporarily stable genre, Scollon notes that discourse habits and conventions evolve from these interactions. But he also concerns himself with the material and embodied elements of the encounters that co-occur with the discourse and mediate the dialogic exchanges. While university instruction appears substantially more complex than the exchange of ordering coffee, the metaphor of exchange, and with it, Scollon's term, can provide fruitful node for examining flow within the system.

The knowledge exchange implied by university instruction constitutes a complex package. It is not a conversational exchange as envisioned in the pure Socratic exchange, but bears traces of dialogic encounters, both metaphorical and actual, brought together in acts both serendipitous and planned. The framework of a course involves designed interventions, planned instruction conveyed through the vehicle of specific assignments and activities. The course can itself be seen as an exchange that is multimodal and multifaceted, including acts of conversation and writing and recurrent encounters with various dynamics and groupings. It is an exchange containing exchanges. These exchanges are situated—in classrooms, laboratories, hallways, and offices, but extending to coffee shops and dorm rooms. These exchanges are mediated—through PowerPoint and Zoom, seating charts and desk layouts, laptops and smartphones, pen and paper. Writing assignments occupy a central position within the course as a complex exchange. Assignments come in all types, but writing assignments offer a particularly rich opportunity for students to engage ideas and for instructors to foster specific pedagogical outcomes.

Taken as a singular design and a focal object in the nexus of exchange, an assignment entails two roles. The *Oxford English Dictionary* (2022) defines the relevant sense of "assignment" as "a task assigned to one; a commission or appointment." In other words, the word lays out two roles with a relational imbalance between them as, for instance, in a military or workplace setting where a supervisor sets a duty before a subordinate. In the educational context, too, the student is not free to evade the task without consequences. In fact, the handing over, or metaphorical exchange, entails two exchanges. First, there is the exchange in which one party "assigns" the task to the other, and a second exchange in which the doer carries out the task to the satisfaction, ideally, of the one who gave the assignment. In other words, another dialogic moment occurs in the act of assessment. To transfer this notion to the writing assignment, the assignment poses a call on the teacher's part, the first exchange, which in turn invites a response, the student paper, which is collected and assessed by the teacher, the second exchange. This is a metaphorical version of what Scollon (2001) studied as a developmental stage in child speech development, a literal handing of an object from a toddler to an adult as a conversational turn. As the child developed, she began to accompany the physical act of handing with linguistic utterances and eventually the physical act was replaced with the more typical speech acts of conversation. Scollon called the act of handing a *nexus of practice*.

A writing assignment is also a nexus of practice. Metaphorically the "writing assignment" is defined by a relationship in which the instructor initiates a pedagogical exchange at least partly mediated by written texts. In other words, acquisition of the assignment genre is rarely the goal of instruction but rather a vehicle to enable acquisition of the types of experience and knowledge valued by the discipline. The assignment can be seen as setting out the rules of the exchange.

It is interesting to note that within WAC research, “writing assignment” is not usually explicitly defined. For instance, in his 2014 survey of writing assignments across multiple institutions, Melzer quantifies assignments by types but offers no explicit definition of what qualifies as a “writing assignment.” He calls writing assignments “revealing classroom artifacts,” (p. 3), arguing that by examining them he is able to glean insights about the “goals and values” of instructors and disciplines. The artifacts he selects are syllabi rather than student papers, a choice that leads him in a particular direction that is certainly appropriate for his study but omits alternative ways of viewing writing assignments. In other words, by focusing on syllabi, he visualizes assignments as one-off designs created by a particular instructor and situated within a specific course. In this study, I also foreground the actions of an instructor but as shaped by actions and practices occurring at different points in time.

A contrasting view of writing assignments within WAC research, foregrounds the student’s process or the product of that process. McCarthy (1987), for instance, is interested in “the tasks students encounter” (p. 235) within different courses, and in addition to observing and interviewing her student participant, she employed composing-aloud protocols, and text analysis. The focus here is on both process and product, but from the perspective of the student. In other words, while McCarthy, like Melzer, does not explicitly define writing assignments, she implies a different object and practice compared with Melzer.

Another way of defining writing assignments is to apply a higher level of abstraction. As already mentioned, because Melzer's (2014) methodology involved reaping assignments from syllabi available online based on professors’ labeling of assignments, rather than in collecting individual papers from students and developing a corpora, he defined assignments in terms of the conceptualization of the task rather than its instantiation, meaning he looked at what professors

assigned rather than what students produced. To the extent that these recur and cohere into larger types labeled by users, they can be classified into genres, a downstream goal for Melzer and one that he fulfills only in broad strokes. Applying a taxonomy generated by James Britton in the 1970s and focusing primarily on the perceived purposes, he categorizes the assignments in the corpus as "transactional," which includes "informative" and "persuasive," or as "expressive," "exploratory," and "poetic" (pp. 21-22). With categories this broad, we can infer little about the types or range of assignments that instructors design across the curriculum, but we can credit Melzer for attempting to identify larger patterns.

A comprehensive study of writing assignments in the UK does a better job of capturing types of assignments and their purposes. Nesi & Gardner (2012) draw on Systemic Functional Linguistics and the genre theory of John Swales (1990) and others in the applied linguistics tradition. Unlike Melzer, these scholars work from a corpus of student papers systematically collected across a range of disciplines. Although Nesi & Gardner are looking at "assigned written work" (2012, p. 5), their focus is on assignment genres, which are defined by function and conventional labels, such as lab report, article critique, case report, and so on. The authors also propose a superordinate level they call a *genre family*, and it is at this level where the study offers its greatest insights. For one thing, each genre family assumes the call-and-response role of the texts within the academic setting but further defines the genre family by the nature of the response that is intended, for instance, the case study genre family invites a response that will "demonstrate…an understanding of professional practice through the analysis of a single exemplar" (p. 41). Different genres falling within the case study genre family could include a company report in a business class or an accident report in an engineering class, for instance. This means that even though Nesi & Gardner (2012) place their primary emphasis on genre

family classification, a relatively superordinate level, their study provides more productive generalizations than Melzer's (2014) account. They demonstrate patterns in the ways that particular disciplines mentor students in writing while Melzer's "writing assignment" is granular and idiosyncratic and his concept of genre is general and underdeveloped. See Table 1.1 for a summary of these different views, as well as the definitions that I will use to inform my own findings.

Table 1.1

Ways of classifying writing assignments

Term	Theorist	Study examines/employs	How term is understood	Originates from
Writing assignment	Melzer (2014)	Description in syllabus	Refers to professor's conceptualization of a writing task	Individual professors
Assignment genre	Nesi & Gardner (2012)	Large corpus of student papers; labels are relevant but also determined goals via textual analysis	Associated with specific disciplinary purposes and acquires conventional labels (e.g. lab reports, book reviews, etc.)	Disciplinary communities
Genre	Melzer (2014)	Vague; looks like conventional labels as used in syllabus descriptions	Claims to define by social purpose as per Rhetorical Genre theorists but does not identify criteria for analysis nor quantify findings by genre. (Limited discussion of two genres.)	(Limited discussion)
Genre family	Nesi & Gardner (2012)	Complex classificatory schema applied to corpus	Classified by linguistic features using five dimensions as well as social purpose/function. Points to similar functions across different disciplines.	Overarching framework as finding from Nesi & Gardner's analysis
Writing assignment	My usage	Descriptions in syllabus and interviews with instructors	Conceptualization of a writing task along with the scaffolding of the instruction, supporting genres, and resulting student papers. In other words, a writing assignment is a practice.	Individual professors
Assignment genre	My usage	Interview references to conventional practices; labels typically provided by users	Described in reference to disciplinary purposes or recurrent practices within school/department, or institution	Disciplinary communities

The reason for this discussion is to establish several foundational premises. First, I intend to apply the concept of a *writing assignment* to practices encompassing the array of texts associated with the practices, to syllabi and writing prompts as well as to student papers, or, in

other words, an assemblage (Law, 2004). The focus privileges the practice over the artifact. The starting point is the conceptualization by the professor, as Melzer (2014), but the aim is to also evoke the implied pedagogical exchange, which typically includes a follow-up step in which the instructor receives, acknowledges and assesses the student texts that fulfill the assignment. The exchange invokes the role of student as well as instructor.[2] This study does not attend equally to both roles, but both are recognized as necessary.

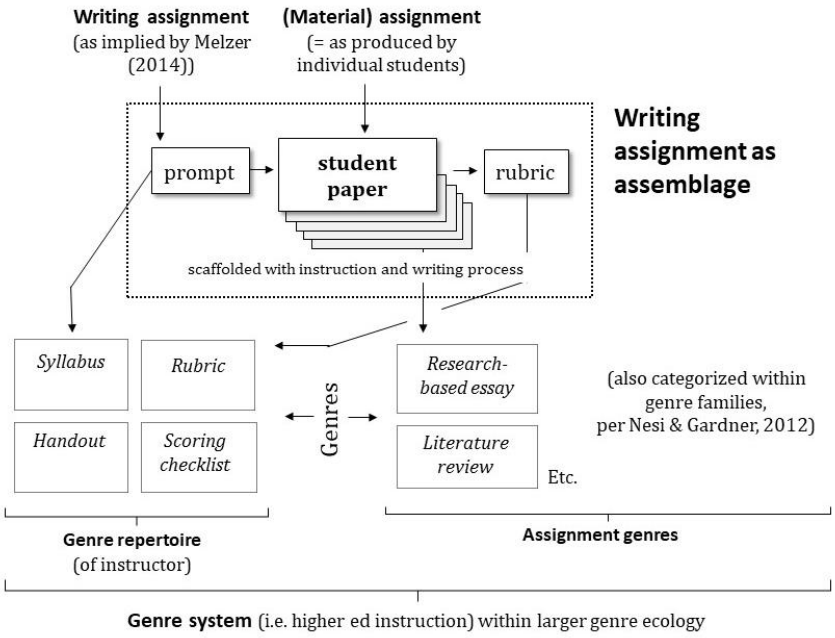
Another reason for seeing the concept of *writing assignment* as an assemblage that includes practices as well as texts is that classrooms involve genre systems (Bazerman, 1994). An array of genres circulate in the classroom activity system and mediate the writing process associated with the assignment. These include application for W-course designation, departmental writing guides, syllabi, rubrics, course evaluations and, of course, student papers. Since multiple genres may have connections to a single writing assignment, the practice rather than the texts must serve as the focal point. But, by the same token, the notion of *genre,* as understood within rhetorical genre studies (Bawarshi & Reiff, 2010; Bazerman, 1988; Devitt, 2004; Miller, 1984), can be productive in examining the forms, functions and social actions of recurrent texts, not excluding student papers generated in fulfillment of writing assignment. At times it may be useful to label assignment genres, as do Nesi & Gardner (2012). At the same time, instructors do not always assign papers that fit neatly into genre categories. They may design assignments with features typical of assignment genres in their disciplines. But they may also add idiosyncratic features or invent writing assignments that do not, at least yet, represent

[2] It is probably useful to point out that treating the exchange here as unidirectional and dyadic is only a useful fiction. In fact, students "teach" teachers, so the exchange can also be reversed. Cases of co-teaching or thinking of the department writ large also complicate the "one-to" part, while the other side of the exchange, i.e. the students, is obviously many rather than one.

assignment genres. See Figure 1.1 for a visualization of these textual understandings within the classroom genre ecology.

Figure 1.1

Writing assignments within the genre system



To move into a fuller explanation of my definition, "writing assignment" will be defined as an assemblage that includes practices, texts and other human and non-human participants. In other words, a "writing assignment" refers to any course task, or collection of tasks, that the professor references as a unit and that involves writing, instantiated in any medium, involving any genre or word count, graded or ungraded, occurring as a single instance or extended over a longer time frame. Nevertheless, an assignment is assumed to be associated with a single course (though not necessarily a single section of a course) within a single semester as taught by a given professor, or if co-taught, the collaborating professors. If a professor teaches substantially the

same assignment from semester to semester, the assignment will be defined as one assignment for the purposes of this study, but the assignment is seen as evolving and changing in various ways over time. I am, therefore, seeing a writing assignment as, essentially, a unit of practice. This is similar to Scollon's (2001) conception of the handing exchange, where he argues that "this practice of handing cannot be viewed as a practice in any single act of handing but that it must be understood as a history of such actions which are consolidated in the habitus as the practice of handing" (2001, p. 143.) Scollon is imagining the vantage point of the "hander" who accumulates an embodied history of handing episodes. The recipient of the handing, in his example, a barista responding to a coffee order, changes from one episode to the next but the "handee" role persists as an abstraction. The barista, to continue with the specific example, certainly also accumulates expectations from recurrent ordering experiences and for them, the customer role is the one inhabited by a revolving cast of "handers." In other words, all such exchanges reflect typified practice generally: as a schema abstracted from recurrent experience (Rumelhart & Ortony, 1977; Sewell, 1992). In this sense, from the instructor's perspective, an assignment can be conceptualized as the same assignment for each student in the classroom, though in another sense it is not the same. Each student has different nuances of understanding, and if two students produced identical papers in response to a prompt, it would be plagiarism, an instance of unsuccessful handing. The diverse papers produced are part of the assemblage represented by the "writing assignment" instantiated as practice. Meanwhile, for the instructor as designer an abstract conceptualization of the writing assignment is stored as a mental model.

Each assignment must of course have a moment of birthing, but rarely if ever does an assignment spring from the void with no antecedents. Roozen (2016) argues the value of "studying practice in its genesis" and in "moments of... disruption" (p. 252). But the story of

assignment design is one of ongoing processes rather than true beginnings and, usually, of periodic tweaks whose details blur rather than memorable disruptions or clear-cut geneses. Fortunately, recurrence makes stable outlines emerge as the tiny interventions disappear, and the story of practices requires attention to the patterns of stability as well as the moments of change. Giddens (1984) points out that social practices both structure and reinforce, allowing for stability and evolution. Neither the design nor the design process ever quite stabilizes, though it offers continuity at least until disrupted. In the usual flow of things, professors tweak courses and assignments that they have taught before and retain a reasonable sense of what to expect while imagining the benefits of minor interventions. However, assignments exist within and serve an ever-changing set of objectives, and one crucial reason for this is that each new cohort of students brings with them subtly shifted values, needs, and goals. They bear a different past and they face a different future, given that the world they will enter as educated professionals is also evolving, always emergent.

There is a sense of time here as cyclical and regenerating, but also with forward motion, with progress and becoming. Design is, by its nature, directed forward. "Unlike scientists who describe how the world is, designers suggest how it might be. Designers are therefore all ‘futurologists' to some extent. The very essence of their job is to create the future, or at least some features of it." (Lawson, 2005, p. 112).

Design writ large is recurrent, cyclical, always looking ahead, always perfecting and never perfected until it is replaced with another vision. To speak of the design of the iPhone is to visualize the iterations of the iPhone, from the first to the current iPhone, and to imagine the gleam in Apple’s eye of the next iPhone. So too are writing assignments. They are interventions providing momentum towards pedagogical goals now but hoping to touch the longer future. The

instructors who first devise an assignment reach to experiences, their own or those of others, back to assignments they remember or to assignments mentioned in someone else's syllabus or in conversation with colleagues. To design, instructors draw on their own disciplinary stories of becoming in the discipline but also to lived experiences that are not fully contained by the academy. The activity of design happens in moments of focused intention, whether hours of deep work time in a pre-semester planning session or flashes of insight scribbled onto the syllabus while teaching a class. Design happens at specific moments in time, but these are dispersed over time. Given the recurrent cycles of academic life, much design is redesign. Writing assignments evolve from semester to semester. Even the first time of teaching a course may be constrained by prior design decisions as is certainly true for the many instructors who inherit courses.

While it is typical to think of design as having material outcomes, as producing something that can be seen or held, in fact, design also generates or enables practice. Designing hammers changed carpentry. Designing toothpaste led to a postprandial practice and, in turn, the social pressure to make it a habit. In this study, then, we are concerned with both design *for* practice and design *as* practice. When we think of instructors as designers, designing for practice is focal. When instructors design courses and assignments, they are also designing for their own participation, with features attuned to their own practices as well as for the hoped-for outcomes for their students since both instructors and students play their own roles in the instructional exchange. But design *as* practice is also important since much of teaching is planning to teach. The instructor envisions and then designs the course experience, though with affordances and constraints from many sources. During the instructional period, faced with real students rather than the idealized ones of the planning period, the instructor assesses the learning and uses the data as a feedback loop for interventions and course corrections. While outcomes for students

drive the plan and their participation guides and informs the process, the instructor retains an active role throughout. A large part of instruction is planning for and reflecting on what happens in the moments of that most potent engagement, the instruction itself.

Like practice, *design* is both noun and verb, action and thing. To return to Scollon's (2001) distinction for *practice* as both a mass and count noun, we can apply an analogous distinction to *design*. Related to a course taught from semester to semester, *design* can be seen as an unbounded, ongoing process, but for *this* semester and *this* group of students, it will be *a design*, a specific intervention—an innovative activity for today's class, for instance. To bear in mind the polysemous nature of the terms, *design* and *practice*, should enrich rather than confuse.

Practice and design, like all human activity, are organized by time in both the short and long term. Adam (1990) theorizes the multi-faceted nature of time, noting that "time is always social time" because only humans "conceptualize time" (p. 154). Time interpenetrates our identities and structures the social. Time and being in-time, in other words, apply to humans, plants, animals, and even things, but their experiences of time differ. Human beings themselves at different points in their life span, seeing through the lenses of different cultures, or in different circumstances experience time differently and imbue it with a different meaning. "The organizational principles of time, in terms of sequence, duration, periodicity, rates of change, and synchronization may be the same for all, but their meaning and expressive form change with the context" (Adam, 1990, p. 154).

While we are aware of our mortality as a background truth, what we experience is an eternal now, a reality that is not only a phenomenon of consciousness but of physiology. "Like a symphony, the physiological orchestration of a present is irreversible and implies its past and future. Furthermore, the entire range of rhythms exist simultaneously in continuously, beating

and a finely-tuned synchrony" (Adam, 1990, p. 74). It is at the fulcrum of this rolling present that design as a practice exists.

When looking at the relationship between time and the design thinking of professors, time needs to be theorized in multiple ways—in its conventional scales and measures, which constrain and discipline our practices—and in terms of the experienced rhythms and textures of time, not forgetting that our bodies themselves pulse within larger feedback systems. Academic life offers its own recurrent cycles, constructed to govern the practices of teachers and students—academic years, semesters, class periods.

However, time also means change; it transforms and reshapes as it passes. Adam (1990) credits Bergson with the insight that time means "emergence, transformation, and becoming" (p. 27). Time is not reversible; but it offers typification as well as uniqueness. Time is linear in its forward motion, cyclical in its recurrent pulses, and formative in its onward progress. Design work aims for transformation, but part of design work is to create objects that focus and synchronize timescales, that respond to and organize recurrence. Schedules and calendars are obvious examples of objects developed in the past but designed to stabilize the future, clamping together shorter and longer timescales. As Lemke (2000) says, "It is the circulation through the network of semiotic artifacts (i.e. books, buildings, bodies) that enables coordination between processes on radically different timescales" (p. 275). Thus, material objects bridge time and mediate between timescales. But it is not just inanimate and designed objects that persist across timescales and thus mediate between them. Human bodies and brains too bear in their bodies the sum of their experiences. Recurrent cycles of activity leave their mark, presetting expectations, training muscle memories, depositing stray bits of declarative knowledge.

Clearly, then, practice and participation, as well as the mediating bodies and artifacts, have a developmental trajectory, a forward shaping or becoming, in this sedimenting of cycles. If individuals and practices are constructed in time, it is also the case that time is constructed by bodies and activities. The measurable units that describe our normal understanding of time are largely human-constructed. What, after all, is a semester if not a formulation that takes a particular activity—instruction—and bounds and fastens it to clock and calendar, both humanly-created material and semiotic objects designed to measure changes and cycles in the physical world? As we look at both the physical and the biological, we see that time, as such, becomes less visible as we focus on processes and activities, as we recall the revolutions of physical entities (solar and lunar, for instance) and explore the collisions and decisions of biological organisms in social collectives. Thus, as we discuss how time shapes design thinking, it is also important to note that design thinking also structures time. Instructors conceptualize assignments and thus generate grading cycles, which themselves become points of reference for synchronizing other activities. Design happens in cycles and is shaped by cycles, but it also generates cycles.

To return now to bodies and selves, the concept of embodied history illuminates what it means when participants report influences on their design thinking. The importance of lived experience as a reservoir for action has been emphasized by a number of scholars in writing studies (Prior & Shipka, 2003; Roozen & Erickson, 2017; Roozen, Woodard, Kline, & Prior, 2015; Smith & Prior, 2020). More widely-cited is Pierre Bourdieu (1977), who offers the concept of *habitus* to theorize how individual experience encodes cultural knowledge. Bourdieu sought to propose an alternative to objectivist and subjectivist views of sociology, a goal shared by Giddens (1984): to avoid either an overemphasis on an over-determining society or an

unanchored free agent, and, further, to account for the fact that cultures and societies develop collective structures—somehow—from the actions of individuals. Bourdieu's model strikes the difficult balance between determinism and ad hoc innovation because the individual is, as Giddens (1984) also insisted, reflective, a thinking agent. Human actors in any given moment have the option to proceed semi-automatically to follow the path of routine, expectation, cultural norms, daily habits, but also to reconsider them, to draw upon knowledge, experience and inclination to diverge from them. To put it another way, design becomes meaningful as a reflective intervention albeit constrained by structures and expectations generated by experience, in other words, as shaped by habitus.

Habitus captures the embodied know-how accumulated from all of an individual's experiences, but as we look at the instructor reflecting on lived experiences and bringing these to bear on the present, it helps to distinguish the accumulation of experience in abstract terms from the dynamics of the body and brain experiencing and remembering in the moment. For this, Scollon (2001) offers a helpful model. In the 2001 work, he describes a study he had conducted of a young child developing conversational moves from handing to verbal language. The development of such discursive actions, Scollon noted, "form in the habitus a disposition to act in particular ways" (2001, p. 110). Scollon later focused more explicitly on the developmental process by proposing a concept called *historical body*. Scollon & Scollon (2005) argue that *historical body* restores a materialist focus to social theory "by disallowing any slippage of the term into super-organic categories such as frequently occurs with habitus" (p. 108), foregrounding "the concrete material reality of the human lived experience" (Scollon & Scollon, 2005, p. 108).

As individuals engage in practice, they fold in attitudes about the practice and what engaging in that particular practice says about themselves. In other words, identity formation is a process that is adjacent to and intertwined with historical body, as Scollon (2001), notes. “One’s actions produce one in the first place as a person who is competent or not in some social practice, and in the second place, they produce one as someone with an identity--a coffee shop habitue, a novice, or perhaps a stranger or foreigner” (p. 142). Identity formation proves important when discussing disciplinary socialization, a crucial goal of the academic enterprise. Individuals perceive and orient themselves within or against a particular “figured world,” absorbing particular discourses and framings (Holland, Lachicotte, Skinner & Cain,1998), in which, identity formation is driven by practice but is also a discursive process, a model of “codevelopment—the linked development of people, cultural forms, and social positions in particular historical worlds” (p. 33). Disciplinary socialization means engagement in disciplinary practice, developing expertise with the semiotic and material tools of disciplinary inquiry, and the assimilation of the discursive worlds of the discipline. Writing assignments very often draw together all three.

Wenger (1998) makes explicit the temporal nature of identity formation as a dynamic, open-ended process of becoming, looking at participation in communities of practice as the instantiation of what Adam (1990) theorizes. “As trajectories, our identities incorporate the past and the future in the very process of negotiating the present” (Wenger, 1998, p. 155). In reference to a community of practice, a trajectory may be inbound, moving towards full membership in and identification with a community of practice, be peripheral, implying a trajectory that does not lead to full participation, or exist as a boundary or brokering identity. Identity "has a coherence through time that connects the past, the present, and the future," yet the

identity formation is not as linear as the forward process of time. Rather it is "defined with respect to the interaction of multiple convergent and divergent trajectories" (Wenger, 1998, p. 154). Like Wenger, Holland & Lachicotte (2007) see identity as formed "in trajectories of participation across activities" (p. 120). Thus, we can argue that identity formation, like design, is a node or knot tying together the past and the future at all moments of present action. For the instructor, this, too, is the operation of the historical body because each act of design requires the instructor's identification with particular roles within the larger mission of the institution and the discipline. Likewise, identity formation seems to underlie the imagined development of the students undergoing a process of disciplinary and professional socialization, where the instructor's interventions play a nudging and formative role in the process.

What comes into focus here is the role of the imagination in selecting a community of practice, moving in a trajectory of deepening participation, or perhaps rejecting or disengaging from such a community. As Wenger (1998) notes, "identification depends on the kind of picture of the world and ourselves we can build. It depends on the connections we can envision across history and across the social landscape" (p. 194).

This point connects to the current study in two ways. First, professors design by imagining the future. Like many design decisions, their interventions are intended for others, that is, the students. Design success depends on bringing the right affordances to others and enabling their success. But because of the nature of their design work, a big part for instructors is imagining a pathway of deepening participation for the students. The professor not only imagines the intervention, the writing assignment, in the hands of the student, but also imagines the long-term outcomes, the developmental takeaways, of the student's interactions with the assignment and how these will contribute to the student's development of professional or disciplinary

capabilities. The professor designs the writing assignment, and the writing assignment contributes to “designing” the future professional. This imagining for another is not what Wenger is referring to, but it nevertheless applies here.

The experiences of the past afford the material for assessing the present and imagining the future. It is the work of memory. Garro’s (2001) study of illness narratives in the Ojibwa community of Manitoba serves as a relevant example. When faced with illness, their own or a family member’s, the Objibwa consulted their memories to reconstruct a narrative of the harm in the past that explained the illness in the present, which then suggested an appropriate remedy. This served “to link the remembered past with the present and to make projections into the future. In such instances, remembering is tied as much to current and future concerns as it is to the past" (p. 122). The Ojibwa revisioning of past experiences to address illness is only a marked case of the role that memory normally plays in daily life. Conscious recall of experiences can be salient in framing and acting even within a novel situation. But unconscious or muscle memory also frames present action, rendering some actions nearly automatic and others effortful and unlikely, a capacity that allows us to navigate the world with impressive efficiency. “To deal rapidly and fluently with an uncertain and noisy world, brains like ours become masters of prediction—surfing the waves of noisy and ambiguous sensory stimulation by, in effect, trying to stay ahead of them” (Clark, 2016, p. xiv). As we can see, Clark’s focus is, to a great extent, on the development of habits of engagement with our surroundings, as say, with a driver scanning the road ahead, making minute adjustments with the steering wheel and accelerator while perhaps thinking about something unrelated to driving. In fact, disciplinary and instructional practices, like all daily practices, draw on both conscious and unconscious memory as a resource for action. This is what is meant by historical body.

The emphasis of this study, focusing on individuals navigating shifting literacy practices, noting trajectories over time that shape and are shaped by a full ecology of influences, coincides with an emerging strand of writing scholarship. I have already alluded to the trend, but I will mention two studies as an illustration of this scholarship. In a set of case studies, Roozen & Erickson (2017) examined the literate practices of a high school student, a graduate student in education, a nurse, and an engineering student. The researchers used reflective interviews and examined an array of multimodal texts composed across different settings for different purposes, tracing the trajectory of these individuals' practices and connections between disparate types of writing and thinking. Smith & Prior (2020) used a longitudinal case study approach in looking at the long arc of development of the writing practices of a biologist and the trajectory of an urban poetry initiative. In both of these studies, rhetors engaged in invention or composers composing, to use conventional phrasing, come into focus, but not as agents acting alone. Instead, these individuals come into view as entangled, engaged in practices, formed by ecological systems inhabited by both human and non-human actors. In the current study, I hope to do something similar as I look at faculty engaged in what one might call invention, composition, literate action, or, as I have chosen, design.

As the discussion has made clear so far, my study, like these two studies, adopts a capacious conceptual framework. The main purpose of this dissertation is to develop and apply several concepts related to time and the ecology of practice. But conceptualizing writing within an ecological framework is not unique; it converges with a diverse body of current scholarship in rhetoric/composition/writing studies that Lotier (2021) characterizes as emerging from the postprocess movement of the late 1980s. Early proponents of tracing connections from the individual writing into larger ecolpolanogical spaces includes Cooper (1986), Phelps (1988) and

Syverson (1999). Examples of the current flowering of the movement include the ecological and posthuman approaches taken by Boyle (2018), Cooper (2019), Edbauer (2005), and Rickert (2013); ecological and new media convergence (Dobrin, 2012), new materialism (Gries, 2015; Gries & Brooke, 2018), the entangling of new materialism and computational rhetoric (Graham, 2020), the ecological impact of Latour on rhetoric (Lynch & Rivers, 2015) and the convergence of Kenneth Burke's ideas with posthumanism (Mays, Rivers & Sharp-Hoskins, 2017). The mention of Latour, who is not a writing or rhetoric scholar, indicates the influx of ideas from thinkers in philosophy and the social sciences, each with their own insights about the rich and entangled nature of reality, whether described as ecological, material or posthuman. But I will not attempt to trace these streams to their sources, even though this sort of exploration appeals to me mightily.

Examining design from the broad vantage point proposed here generates a number of challenges. One challenge has to do with the nature of memory. First, there is the temporal gap between action and recall. Participants do not perfectly recall what they thought or did, much less the details of tools or surroundings. Further, when participants report on how their personal histories inform their thinking, they are constructing narratives that mediate that past. "The communicated past is a narrated past" (Garro, 2001, p. 121). How experience shapes practice through repetition and recurrence also poses a problem for ecological research because habits represent the accretion of similar experiences repeated over long periods of time, resulting in knowledge that is largely tacit. For many aspects of practice, the historical body offers an assembled package that has rendered the original experiences forgotten and largely inaccessible for reflection. The culture and meanings remain, but the experiences that taught them have faded.

Another challenge in ecological research is the problem of folded and entangled nature of the causal elements. Even if we could identify and itemize all the influences that come together to motivate a particular action—a particular design decision—we can make no claims about the strength of one influence or another or of the interactions between them. To take one example, one participant in my study, Bruce Ivers[3], coaches biology students in writing a proposal for their biology research project. Disciplinary practices underlie the practice as does the implicit goal of preparing students for a future with these practices. However, Bruce necessarily folds in personal, lived experience within the discipline, both his own experiences learning the discipline and those of coaching students who are acquiring the skills. At some point he came to the conclusion that requiring students to produce a simulated results section, an atypical part of a proposal, would help students understand the research process better and more efficiently prepare them for the final research report. Did he come to this decision based on his own experience with the research process as an undergraduate or graduate student, or from an aha moment that this tactic would bridge a gap for students as he was musing on experiences with struggling students? Or was it, perhaps, both? Influences are diffuse and attenuated; the causal linkages are complex. They impact the design thinking, but they don't necessarily lead to a specific outcome in the design. They lead to beliefs and cultures of practice, which drive actions, which reinforces beliefs and culture, and onwards round the circle.

A final problem with ecological studies of practice is the problem of dynamism, of ecological change, a dynamic node in a dynamic system, both of which are constantly changing. Cole (2016) notes that researchers who want to explore how people develop within practices face methodological difficulties in that “they are committed to studying simultaneously the history of

[3] Pseudonyms are used for interview participants and any colleagues that they reference in their remarks.

the person (at the microgenetic and ontogenetic time scales) and the history of 'the contexts of development' in which the persons participate" (p. 1679). In other words, in the onward flow of time, both the individuals and the institutions and practices that make up their ecological context are always in the process of becoming.

This, then, is the theoretical setting for this story of design. By looking at assignments and design, more specifically at the design of a recognized class of assignments, assignments tagged as writing assignments, we have the opportunity to examine the ways in which professors within the disciplines draw on personal and collective influences and the ways that they are shaped by the expectations, policies and constraints of their institutional settings as they design from and into particular forms of writing and research practices, as they build and rebuild particular ways of forming and explaining knowledge. What happens at this horizon of possibility poised between a past written in bodies and books and a future being imagined for one's students? What role do the artifacts of thinking, the written assignments, play in facilitating this trajectory? How do professors inherit and improvise, allocate and appropriate, redefine and redesign towards a horizon ever rolling forward? Sometimes the focal point is specific design moments and at other times attention is directed to practices and the logic driving them. At its purest, the focus is on how these are individuals thinking, reflexively, about the work they do, and what influences and reservoirs of experience make the work possible.

A study of literate practices would reveal an interesting texture of influences whatever institution one studied. However, focusing on undergraduate upper division courses across a range of disciplines ought to reveal a particularly rich strand of influences because these courses inhabit a liminal space between the largely general education courses of the first years of college and the explicitly disciplinary training of graduate school, In a teaching institution, pedagogical

goals are likely to have more impact compared with professors' own writing and research practices, and we might expect the balance to be reversed in a research institution. Inevitably each setting places a different weight on possible influences. In this case, I chose a religiously-affiliated institution partly for convenience, but also because the values of the institution are clear-cut and ever-present. I expected religious and institutional values and commitments to be particularly visible. In the way that medical researchers might use colored dyes to highlight circulations, I believed that choosing an institution that is marked in this way would help make visible the ways that multiple commitments interact in course and assignment design.

As is often the case with qualitative research, methodological decisions combined with emergent findings shifted the study along the way. I will discuss some of the practical matters in the methodology chapter, but I need to mention two shifts here. The first involved zooming out from a focus on specific assignments to also examining the design of the courses containing the assignments and describing curricular artifacts that span courses. Writing assignments, as noted earlier, are assemblages intertwined with practice, drawing on and pointing to other course activities that also invite students to engage with course knowledge and practice disciplinary skills. This meant that at times the discussion veered into course planning as a whole. Further, because I was looking at the nexus of design and the influences on the designer, I also found myself toggling back and forth between the product, process and person. Finally, an interesting twist introduced itself earlier on: several participants proved to be as interested in design interventions at the curricular level as at the course level. Thus, while the central focus of this dissertation remained the design of writing assignments in writing-emphasis courses, the design of the course itself and of the larger curriculum also proved relevant.

The second, more consequential shift was the emergence of time as a focal element.

Noticing that some artifacts were designed to bridge multiple courses led to what was for me the most interesting emergent finding and what came to be the organizing principle of the whole study: an emphasis on design as the story of time, both linear and cyclical. Participants designed for the course level, as expected, but also at the curricular level. This finding inspired me to look at the semester and the curricular span as time cycles, which in turn led me to look for other time cycles. When I did so, I realized that time cycles at different timescales act as both affordances and constraints to shape design decisions and that seeing design decisions as framed by time can be a productive vantage point.

The shifting focus of the study over the time during which the data was gathered and analyzed led to some adjustment of the research questions, but the following three directed my attention from the beginning to the end:

1. What influences directly shape a professor's design decisions for a writing-emphasis course, most explicitly in terms of defining the writing assignments qualifying the course to be designated as writing intensive?
2. How does the professor balance content and writing goals in a writing-emphasis course? How does one serve the other?
3. What mediational means convey the metadiscourse associated with the assignment? That is to say, what specific artifacts do instructors prepare to scaffold the writing assignment?

1.3 Overview of chapters

The remainder of this document proceeds as follows. Chapter 2 offers a thorough accounting of the methodology, including what data were collected and analyzed. The four chapters that follow describe the findings, which may be conceptualized through the lens of time

or through the lens of design. The two views interlock, and to some extent, translate into each other. Because time came to be the organizing principle for me, let me start there. Figure 1.2 offers a visual representation of three shifting vantage points, each of which offers a slightly different view of time.

Figure 1.2

The story of time and design

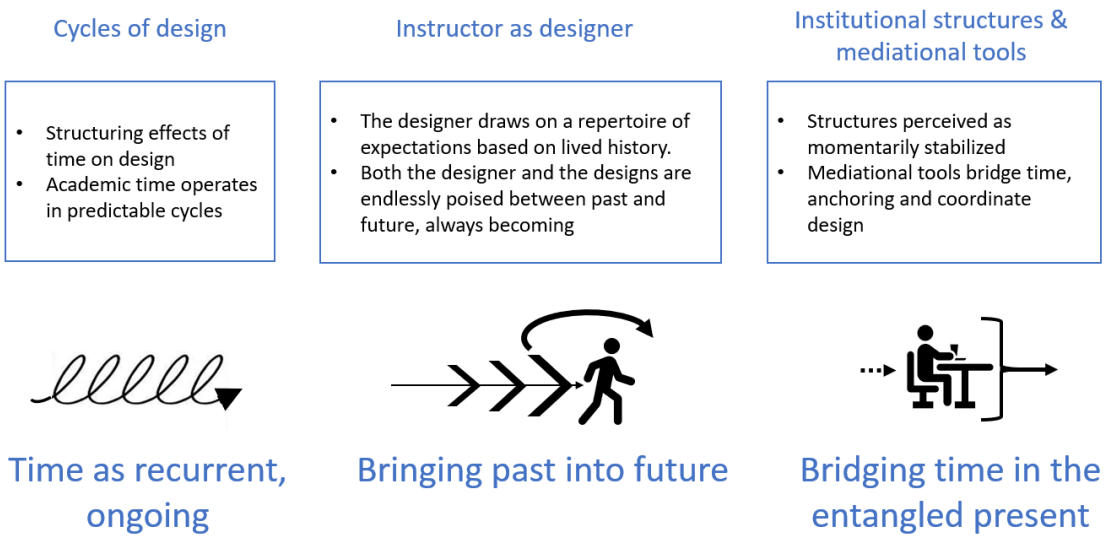
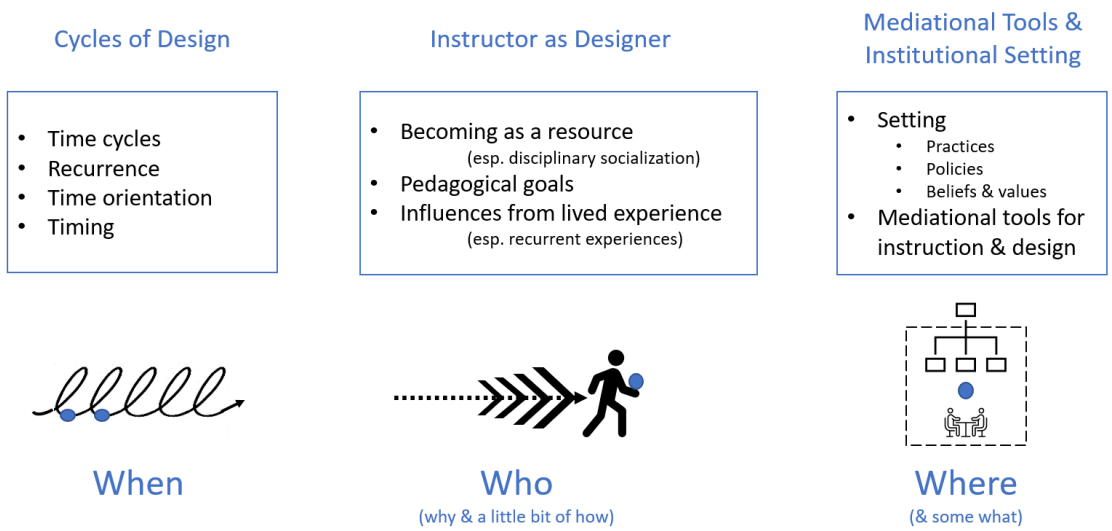


Figure 1.3, on the other hand, focuses on design as a practice and captures what the same three focal points illuminate about the nexus of design.

Figure 1.3

The design of writing assignments



Chapter 3 looks at how academic time shapes the design process for instructors. Design occurs within the recurrent time cycles that serve as rhythms within the academic timescape. These time cycles drive and shape design thinking in fundamental ways.

Chapter 4 focuses on the designer and design thinking at the nexus of design, practice in the now that balances past and future. Here the emphasis is on the linear nature of time, but with a focus on the fact that individual human beings, their social collectives, environments, and ecosystems are always becoming, and that the effects and traces of the past shape the current moment even as attention is directed towards the future. This chapter focuses on what instructors reported about their design thinking and the influences that shaped course planning and writing assignments within these courses.

Chapters 5 and 6 stay on the nexus of design but zoom out to examine the ecological framework that shapes the design process within a particular institution, school or department, with its associated practices, policies, beliefs and values. Here, too, designers construct or

appropriate tools that mediate the work of design and then coordinate instructional practices. Therefore, as we can see, chapters 5 and 6 continue an emphasis on linear time and becoming, but with further attention to the entanglements of the present. While things and institutions are not static, they are here viewed as stabilized for the moment of design though interwoven with their own histories. They serve as background realities or temporary inventions that stabilize design or instruction and work to stitch practices together in the short-term and to gesture towards longer term goals. Chapter 5 focuses on the frameworks within which designers work, in the case of a university, the institution as a whole and the individual schools and departments with their associated work teams. These collections of human agents, documents, tools, policies, and so on may be seen as assemblages that structure the practice of participants and serve as affordances and constraints in the design process. Constructed reifications, which again may be seen as assemblages, include textbooks and course materials, syllabi, learning management systems, assessment tools and so on. These may be constructed by the designer or by others, but once designed these too serve as affordances and constraints for the design and within the design process. These are the focus of chapter 6.

The final chapter, the conclusion, returns to the question of what we know about time in design and design in time. Besides situating this study within the longer arc of ecological research in writing studies, chapter 7 proposes more attention to the framing effects of time in ecological research and offers some methodological suggestions for doing so.

CHAPTER 2

METHODOLOGY

To better elucidate the complex ecology of design, I apply the theoretical framework of this study to a particular institution at a particular point in time. This entailed collecting several types of data, primarily qualitative.[4] The richest data came from interviews with ten professors, each of whom taught in a different discipline, which was supplemented with data from a survey sent to instructors who had recently taught a writing-emphasis (W-courses). In addition, I looked at syllabi and supporting documents and artifacts shared with me by interview participants. Data was examined through coding in NVivo and other reorganization and reformulation strategies. In this process, I depended heavily on the qualitative data analysis methods of Miles, Huberman, & Saldaña (2020).

2.1 Research site

An institution is, in real terms, geographically situated but also located by linkages with other institutions engaged in similar activities and with whom they share practices and, at times, personnel. The target institution is linked by the normal exchanges and connections to other institutions of higher education, through accrediting bodies, the inflow and outflow of personnel, and participation in professional associations and events. But beyond this, it belongs to a consortium of educational institutions belonging to a particular protestant denomination. This reality places the institution within another circle, loosely bounding the institution and its sister institutions, all of which are embedded within the constellation of higher education in North America.

[4] The study was reviewed and approved by Old Dominion University IRB under exemption category # 6.2. The reference number was 1227331-1.

In any case study, the local environment provides a rich context that carries a culture and privileges certain practices. While this reality limits generalizability, distinctive local features often illuminate how particular beliefs, values, traditions, and habits inform practice. In this case, the target institution–Sam York University (SYU), as I will call it[5]–has three particular attributes worth noting. First of all, its WAC policy of requiring three upper division writing-emphasis courses for each four-year graduate affords a cross-disciplinary sample of such classes bound by a shared if loose criteria. Second, as already mentioned, the institution is affiliated with a religious denomination, and thus, fosters a subculture with a distinctive tradition and belief system that impacts the curriculum in explicit and pervasive ways. This fact makes the institution more interesting as an object of study since a particular thread of influences is readily traceable through the design of writing courses. In some cases, the worldview commitment generates a particular type of assignment, for example, papers where students are invited to explicate and integrate personal religious beliefs with disciplinary understandings. In other cases, professors defend their choice to exclude explicit references to faith to privilege competing values and commitments. Third, a few years ago, Sam York's center for teaching excellence established a summer institute to help professors better integrate principles of faith with disciplinary content. During the institute, participants redesign one self-selected course using the principles that they learn. In other words, even though the summer institute does not address writing assignments explicitly, participants who have participated in the institute would have consciously worked through a course (re)design process, and I wondered if this might have made their design process more conscious and reflexive. The three attributes of having a long-

[5] I have chosen to employ a pseudonym for the institution in part to protect confidentiality of participants and in part to cloak its unique features, so that I can emphasize the commonalities it shares with similar institutions as a representative of a type.

standing WAC requirement, a religious affiliation, and a training program that might reinforce institutional values all seemed to argue that this institution would serve as an interesting case.

SYU was established as a regional institution for the founding denomination, but the school now attracts students from across the United States and a few international students. The school has a current enrollment of around 3000 students, mostly undergraduate, but does offer graduate programs in health sciences, business, social work and counseling. Many undergraduates aim for health science careers, typically nursing, but the university also offers degrees in humanities, arts, sciences, communication, social sciences and education, business, and technology. The university is more ethnically diverse than the US population with white students comprising just under half of the student body. While there is also religious diversity, most students affiliate with the sponsoring denomination or have family members who are members.

One feature worth noting is that the university does not offer tenure. While tenure is declining within American higher education ("The Future of Tenure," 2021), it is common for religious institutions to not offer tenure (Harris, 2005). It is difficult to verify all the consequences of this, but it is probable that faculty feel less pressure to do research, which would have implications for how professors focus their time and how they think about writing. The fact that the university emphases teaching is a related but not entirely congruent point.

2.1.1 Writing-emphasis courses

Since at least 1980, the university has required three "writing emphasis" courses beyond the two-semester sequence of first-year writing courses. The logic, as articulated in the policy document currently on the university website, is that the university "recognizes that the ability to write clearly and effectively is a core goal of a liberal arts education. Learning to write well is an

on-going process that must continue even after College Composition courses… [The] goal is that students participate in this process regularly and across the curriculum."

Some of the more specific goals, according to the policy, include to "demonstrate content knowledge and critical thinking in the discipline," to "follow the writing process," to "unify writing around a central idea," to "use quality evidence," to "organize writing effectively," to use "clear, concise, academic style," to "follow the conventions of standard written English," and to "tailor writing to fit audience expectations, genres and conventions appropriate to the discipline."

Two types of writing are required to qualify a course as a writing emphasis course as defined by the policy, "extemporaneous and planned writing." The purpose of the extemporaneous writing is for students "to think critically, to deepen their understanding of the subject matter, and to demonstrate learning." However, there is also an assumption that "unplanned writing will demonstrate what the student is capable of writing without outside assistance," which aligns with a recommendation that this be done, in part, through exams with a substantial essay component or frequent quizzes with open-ended answers. Instructors are also encouraged to use extemporaneous assignments as an opportunity for "writing to learn," defined as "in-class assignments such as written reactions to professional literature, journals, lab notes, etc. may also be used to encourage students to deepen their thinking through informal writing."

All "writing emphasis" courses bear a W-tag in the course schedule and on the transcript, and are required to bear a syllabus statement acquainting students with the policy and its expectations:

> This is a Writing Emphasis course; therefore, special attention will be given to the process and quality of written work. Any written work is expected to focus on a central idea and be supported by adequate development in organized paragraphs. Writing

> Emphasis courses require both extemporaneous writing and at least one substantial planned paper. In order to allow for self-evaluation and growth, the instructor will give constructive feedback at least three times during the semester.

The policy also notes that the required coaching and feedback are time-intensive and thus also stipulates that the enrollment of "writing emphasis" courses be capped at 25.

In the general education section of the catalog students are told that "candidates for the bachelor's degree must complete three writing-emphasis classes," identified by the (W) designation in the course list, and that one of the classes "must be in the student's major field and one must be outside the major field. The third may be chosen from any area." The description concludes by clarifying that writing courses completed in a foreign language as part of an overseas study experience qualify as the W-course for students majoring in the target language or in an international studies program.

Given the demand for offering at least one W-course in each major and for there to be sufficient W-courses across the curriculum to allow each bachelor's candidate to satisfy the requirement, I asked survey participants to weigh in on why they believed their course had been given the W-designation. Participants were invited to select all responses that they considered crucial. The results are given in Table 2.1. One important point to note here is that two respondents chose a write-in option and each of these two responses, those listed in the last two lines of the table, indicate that faculty sometimes feel that the W-policy poorly matches the goals of the course.

Table 2.1

Reasons that courses received the W-designation

Question: From your perspective, which of the following represents the most significant reasons that your course (or courses) came to be designated as having a writing emphasis? (Check all you consider crucial)

Rank	Reason	N=20	%
1	Writing develops the powers of independent reasoning useful for a college graduate within my field or discipline.	16	80%
1	Writing prepares students for professional practice.	16	80%
2	Writing allows students to demonstrate knowledge and understanding in the ways valued by the field or discipline.	15	75%
3	Writing builds research skills needed within my field or discipline.	13	65%
4	Writing serves reflective goals for students, allowing them to make personal connections between course content and current or future values and practices.	11	55%
5	Writing is employed to make social connections between students within a course or between students and others with which they build community.	2	10%
6	Forced by policy to have W-course, and the course I inherited seemed to fit the best	1	5%
6	Writing is important to my discipline however the restrictions placed on writing courses at SAU do not align with my discipline so I created a course to meet this criteria.	1	5%

Writing-emphasis courses tend to be of three rough types, although it is possible for them to overlap—courses that are primarily topical, though they may include some attention to research or other skills, courses with their primary focus on research methods, and capstone-type courses, which can overlap with one of the other types. Capstone-type courses are described as a separate type because several courses in the sample were identified in that way by participants, and it is reasonable to assume that larger, culminating written projects would allow a course to gain the W-designation. In an inventory of the syllabi for all F19 W-courses three out of 45 were identified on the syllabus as capstone courses (7%) and nine out of 45 were labeled as research classes or the syllabus identified the research skills of the discipline as the primary goal of the W-component (20%). The remainder I would call "content" classes, meaning that they were organized around skills or a body of knowledge, with a variety of emphases. These typically

mentor students in disciplinary research practices as a secondary goal. These made up 33 out of 45 or 73%.

Like the majority of four-year institutions in American higher education, the institution also has a required first-year writing sequence. The primary sequence is composed of an English 101 and 102 course, the first of which emphases essay skills and critical thinking with a limited amount of reading, and the second of which focuses on building longer essays based on library research. There is also a credit-bearing basic writing course for students whose scores on standardized tests fall below the target and whose performance on an alternative proficiency test indicates that they need more training with sentence and paragraph structure. In addition, the institution maintains a writing center where students across campus can sign up for one-on-one sessions at different phases of the writing process.

2.2 Participants

2.2.1 Interview participants

Interview participants were chosen from a list of instructors of writing-emphasis courses across a range of programs. Nursing, business, and religion were placed in the list first because of the importance of these majors on our campus. One particular social science class was chosen to represent the social sciences because it has been the most widely-taught writing-emphasis course, it serves majors in at least two different fields, and it is an online course, which also made it interesting. Finally, science and humanities courses were included to represent these major disciplinary areas. Communication, journalism and English professors were excluded since these professors typically teach courses where writing is an intrinsic part of the course and perhaps its raison d'etre.

To cover the hoped-for range of disciplinary areas and to select faculty that had experience with writing-emphasis courses that was both robust and current, I hand-picked the participants and then reached out to them by email, inviting them to participate. If the email elicited no response, individuals were contacted in person. Potential participants were not pressured to participate, and, in fact, no one who was contacted ended up declining. A copy of the recruitment email is in the appendix.

Interview participants represented a cross-section of disciplinary backgrounds but were not very diverse in other ways. For instance, participants were not racially and ethnically diverse nor very diverse in terms of levels of experience. Hiring at the institution has become more racially and ethnically diverse in recent years, but this sample was less diverse than the faculty as a whole, which remains somewhat less diverse than the American population. Further, all participants had taught a range of courses at this institution and had at least a few years of experience teaching writing-emphasis courses. Many had also taught at other institutions, and some had taught at the secondary or primary level. As the faculty becomes more diverse, we can expect that over time writing-emphasis faculty will also become more diverse.

2.2.2 Survey participants

The survey targeted all instructors who had taught writing courses in the past three years, again excluding communication and English faculty to avoid courses focused heavily on writing. The assumption behind the three-year time frame for the sample was that these individuals would likely still be at the institution, and if not currently teaching writing courses, able to recall their thinking about the design of the course and writing assignments. The recruitment email for the survey is in the appendix. Out of 57 emails sent, I received 20 survey responses. These responses represented a cross-section of five disciplinary areas adapted from a

list used by Nesi & Gardner (2012) in their study of assignment genres as used in universities in the UK. The difference was that Nesi & Gardner combined arts and humanities, and I separated these for two reasons. First, on this campus, they are housed in separate schools, so they are structurally separate. Second, Nesi & Gardener's list does not include visual arts or music, suggesting that "arts" is used in the sense of "liberal arts," rather than performing or applied arts. Table 2.2 shows the breakdown of responses by these disciplinary areas.

Table 2.2

Survey respondents by disciplinary area

Disciplinary area	As further defined in survey	N=20	%
Humanities	(languages, history, religion, etc.)	4	20%
Social sciences	including education, social work, business, political science, etc.	7	35%
Biological sciences and health sciences	including allied health, nursing, health and wellness	3	15%
Arts	that is, visual arts or music	3	15%
Physical sciences, math, computer science, engineering and technology	--	3	15%

Most participants would qualify as experienced. Faculty were not invited to indicate age, sex, ethnicity or other demographic features on the assumption that soliciting this information could compromise confidentiality since it might be possible for me to trace their identities with this information.

Nineteen participants indicated how frequently they taught W-courses. 73.7% of the respondents, or 14, noted that they "teach W-courses nearly every semester," while 21.1%, or four participants, have taught at least two but not necessarily every semester, and one participant, or 5.3%, indicated that teaching W-courses was not a normal part of their course load.

Participants were also invited to describe their professional experience prior to teaching at their current institution, with the option of making multiple selections. Table 2.3 reports these findings.

Table 2.3

Professional experiences reported by survey participants

Type of experience	N=20	%
Teaching undergraduate or graduate courses at another American institution	10	50%
Working within a professional or business setting outside of academia, including self-employment	8	40%
Teaching at a primary or secondary school	5	20%
Working for a charitable, development or mission organization	5	20%
Teaching undergraduate or graduate courses at an institution outside the US	1	5%

I would speculate that the percentage who have taught at the primary or secondary level or worked for charitable organizations may be higher than usual for this institution because of this religious denomination's global footprint, both in terms of its educational system and other charitable endeavors. We can see that a number of respondents showed that they brought multiple types of experience with them to their current institution.

2.3 Data collection

As we have seen, this mixed method study includes data from interviews from a sample of ten instructors, each from a different discipline, and survey responses solicited from instructors who have recently taught writing-emphasis courses. While interviews and survey results served as the main data, I also collected syllabi from the appropriate semesters for the courses discussed in the interview. In a few instances, participants provided me with copies of artifacts that came up in the conversation, typically supporting documents like rubrics or handouts. In a handful of instances, I took pictures of these items, such as, for instance, an online

scoring guide. To illuminate the institutional context surrounding writing-emphasis courses, I also reviewed archival materials related to the writing committee and spoke with four individuals who had chaired the committee.

2.3.1 Interviews

Each participant was invited to participate in two separate semi-structured qualitative interviews of 45-60 minutes each and conducted approximately one semester apart. The goal of the interviews was, as described by Roozen (2016) to “make visible the tacit knowledge persons bring to bear on their literate activities" (p. 251). In other words, faculty were invited to recall their design process, whether of a course or of the assignments within the course, and to review syllabi and other supporting documents to try to help them reconstruct their process and thinking.

Table 2.4 shows the interview timeline. One purpose of having a second interview was to check back and see what had changed in instructors’ design thinking at different points in time and to check whether the interview itself served as an impetus for reflection on and interventions in design. The second interview also served to fill in gaps and follow up on comments made in the earlier interview. I had not intended to space the first and second interviews as widely, but as it happens, leaving a significant amount of time between the first and second interviews proved to be fortuitous. Two professors made changes that had a significant impact on the writing assignment or the scaffolding of the assignment and in each case, they were able to describe the specific exigence for the change in some detail. Interestingly, this included the participant whose interviews were spaced most closely. She had been intending an overhaul, and summer was her time to make the changes. Thus, having one interview at the beginning of the summer and the other at the end of the summer proved meaningful. Interviews also offered the opportunity to

learn about and, in some cases, photograph or collect artifacts that supported instruction in these courses. This can also be seen in table 2.4.

Table 2.4

Interview timeline and data

Cr	Description of course	First interview	Second Interview	Gap (days)	Reported changes	Major writing assignment	Artifacts referenced in interview
3	Philosophy of education	6/24/2019	1/31/2020	219	Minor	Paper defining own philosophy of education	Textbook, syllabus, rubric, suppl book
1	Writing in science	3/22/2019	2/4/2020	319	Minor	Research report	Textbook, LATEX, syllabus, rubric (through turnitin)
1	Proposal writing	6/11/2019	2/21/2020	255	Limited if any	Proposal for research project	Writing guide, syllabus
3	Art appreciation	2/20/2019	1/21/2020	335	Minor	Research-based essay	Museum journal booklet, syllabus, rubric, textbook
3	Business strategies	2/8/2019	2/14/2020	371	Major revision	Case report	Textbook, syllabus
3	In-depth study of biblical book	8/10/2019	--	NA	NA	Research-based essay paper	Syllabus, rubric, suppl books
1	Physical chemistry lab	5/13/2019	1/15/2020	247	Minor	Lab report or research report	Textbook (for writing), textbook, syllabus including rubric
3	Research methods in nursing	5/15/2019	1/22/2020	252	Minor	Review essay looking at key studies on topic	Syllabus, rubric, LMS, posters, research instrument
3	Course looking at regional politics and history	2/5/2019	12/16/2019	314	Minor	Research-based essay	Syllabus, rubric, journal articles, suppl book(s)
3	Sociology course focused on aging	5/29/2019	8/23/2019	86	Major revision	Literature review	Syllabus, textbook, rubric, topic list

The interview protocol consisted of ten questions designed to guide the interviews, but these were not always asked in a set order or using exactly the same words, and follow-up questions were inserted where relevant. A copy of the interview questions is in the appendix.

The interviews were initially designed to focus questions on a particular writing assignment in a particular course, but in fact, typically drifted into a more general discussion of the features of the course and the design decisions. Some of these were focused on a particular assignment while others involved design decisions made in reference to the course as a whole. All participants were asked about their own educational and professional backgrounds and the connections they saw between their previous experiences and their teaching of writing. All participants except one were asked about their history with the target course, changes made to the course during their time teaching it, the writing assignments within the course, the place of the course within the larger curriculum, their thinking in terms of course and assignment design, and how the course was structured to accomplish their pedagogical goals. The exceptional case was a participant whose background was particularly interesting, so in the first interview, I chose to focus almost exclusively on questions about his background, assuming that I would have time in the second interview to delve into the course and writing assignments. However, closures associated with the Covid-19 pandemic in the spring of 2020 interrupted plans for the second interview, which ultimately never occurred.

For seven of the ten participants, the interviews took place in-person in the participant's office. One participant chose other locations on campus, and one chose my office. Finally, one set of interviews took place via Zoom.

Moving from the first to second round interviews proved an important checkpoint in the interview process. The first-round interviews were semi-structured, and in some interviews, I diverged slightly from the wording on the original list or, depending on what I knew about the participant, the course, or the discipline, opened with the question that I thought would be the most meaningful or natural place to start the interview. I did refer to the list during the interviews, however, and tried to cover most questions in the time scheduled. However, because of the variations, I decided to take stock before starting the second round of interviews. I reviewed transcriptions, notes and interview audio to identify common and emergent themes, as well as a few topics consistently underrepresented. I then input the reformulated topic list into NVivo as a set of provisional codes. From these codes, I generated a customized list of second round questions for each participant.

The fifteen provisional codes are listed in Table 2.5.

Table 2.5

Provisional codes

Code	Description
As writer or researcher	Identity as writer or personal writing, research practices: How do your own personal beliefs and practices as a writer or researcher shape the way you design and teach the assignment? What are your influences and commitments, that is experiences, beliefs, values (personal, disciplinary/vocational and worldview) and how do these impact the way you design writing, or what you want to accomplish with writing in your courses?
Assignment description	Details about key assignments, particularly focal assignment: goals, prompt and framing, deliverables, assessment, expectations, etc.
Circulation	Practices, artifacts downstream from your design practice: Have other people picked up your assignments or adapted them for their own uses? Are you aware of any cases where your practices have influenced others?
Collaboration	Thinking, planning, designing with others: To what extent is the design of writing assignments collaborative within your department? Do you discuss course goals or assignments with colleagues? Does your department have any policies about these assignments?

Table 2.5 Continued

Code	Description
Content in course	How the assignment fits in larger course, timeline, weighting, etc.: What role does it play in relation with other course assignments and deliverables? How is the course organized and where and how does the focal assignment fit with the other pieces?
Course in curriculum	Context of the course within the larger curriculum, particularly in terms of writing practices: How explicitly do you think about the place of this course and this assignment within the larger curriculum, that is, how students have been exposed to writing in previous courses and how they will use writing in later courses?
Design process	Typical or usual process for designing course and selecting, constructing assignments to accomplish course goals: How do you typically design a course? Describe the process. What sorts of consideration come into play in the design process?
Design thinking	Specific design decisions connected to pedagogical goals for focal assignment in focal course; this is the micro (this time, this assignment) rather than the macro (usual approach)
Discipline	Rooted or driven by disciplinary expectations and practices; explicit references to these; also reference to experiences, practices and commitments across disciplines where relevant
Evolution & history in course	How the assignment has changed over time: How long has the assignment been taught? Has the assignment evolved? In what ways? (Can also include trajectory of development if over a long period of time.)
Faith connections	Anything related to faith and learning: To what extent are explicit faith connections part of the assignment? In other words, is there a section of the paper inviting such reflections or does the integration come in the course in other ways?
Historical body	Educational and other background of instructor seen as relevant to assignment itself and instructional practices in general; include summer institute, training, conferences, etc.; essentially all relevant lived experiences, personal history (see Scollon & Scollon 2004 on "historical body")
Instruction & scaffolding	Scaffolding and instructional practices; how the assignment is actually taught in the course, materials and processes for helping students through the process
Mediational tools	Any material or digital object or conceptualized (reified) symbolic artifact used as an anchor point in design process or in instructional scaffolding: What do you think with? What objects or artifacts provide anchor points for design process? What do you create or select first--textbook, software, writing guide, syllabus, LMS, etc.?
Student needs, futures	Future identities and needs, especially long-term, but also look for statements like, "Students weren't getting...": To what extent do you think about the disciplinary and professional futures of these students as you design the assignments? (Or are you mostly thinking about how the assignment enables thinking within the current course, i.e. meets current pedagogical goals?)

All second-round interviews began with the same opening question, “What—if anything has come to mind about writing—or writing assignments in your courses since our last interview?” I also asked if the participant had made changes to the course since the last interview. In most of the second-round interviews, I concluded by asking participants if they had any other comments to make about influences on the way that they designed and taught the writing assignments in their writing-emphasis courses. This question was often not very elegantly-phrased, but the intention was to give participants a final chance to comment on whatever came to mind. Here are the versions, more or less randomly-selected, from two second-round interviews.

- So, in that larger, you know, what-are-my-influences question, anything else that you think of?
- Okay, final question. Any other comments on your influences and commitments, experiences, beliefs, values, personal, disciplinary, vocational, worldview and how these impact your writing. In other words, pretty much just anything else you want to say about all the stuff we've been talking about. What, uh, you know, what influences what you do? What you think and all that.

2.3.2 Survey

The survey was primarily designed to provide an additional data source against which to compare the interview findings. While it is true that there were likely overlapping participants between interview and survey participants, the survey did add in a few more voices. The survey examined the goals attached to the writing courses overall, goals for the major and minor writing assignments, design influences, participation in campus training, and redesign practices.

While initially I planned to release the survey before conducting the interviews, I ended up releasing it after completing both rounds of interviews. However, this had an advantage in that I was able to revise questions to focus on points emerging from the interview. One revision involved biographical information. To better protect confidentiality, I instead used a single question that asked about current disciplinary areas across five broad categories adapted from Nesi & Gardner (2012). An added advantage is that this allows me to compare my findings on pedagogical goals with theirs. Similarly, several biographical questions were collapsed into a single select-all question that aimed to discover if they had taught at other institutions, at other educational levels or in other types of institutions outside of academia.

While questions about how professors teach and scaffold writing assignments remained largely the same between the original and revised versions of the survey, a few questions were added to improve alignment between the survey and the research questions and to more closely align with the interview data. For instance, a question about mediational tools was added both to match a research question and because this had emerged as salient during the interview process. Questions about design practices were also added. While the idea of design had shaped the study in abstract terms, during the interviews, it emerged as a more practical consideration: exactly what do professors do as they design a course and construct an assignment within that course? The final version of the survey can be found in the appendix.

2.3.3 Syllabi and other artifacts

In addition to the interviews and survey data, for each participant, I examined syllabi that correlated to the semester closest to the interview dates. This meant that I had at least two syllabi for each instructor. In a few instances, I was also able to reference other artifacts that came up in

the interviews, as mentioned earlier. Finally, in the digital archives of the institution, I collected all W-course syllabi for one semester that overlapped with the interview period.

2.4 Data analysis

Data analysis for this study followed three major phases. The first was the transcription of interview data with provisional coding. The second phase involved several rounds of coding, specifically of interview data, using both coding schemes planned from the beginning and coding processes selected from engagement with the data. At this stage, I also began to reorganize the interview data into larger stretches of text, privileging the voices of participants. The third phase brought in the survey and textual data, as well as reexamining coded data from the interviews to look for more detailed patterns. The major tools in this phase were manual reorganization of coded excerpts in Google documents and examining data through matrices and charts.

2.4.1 Transcription

Interviews were transcribed to facilitate coding and analysis of speech content. After using InqScribe for a rough transcription, each utterance was pasted into and cleaned up in NVivo. This also meant that transcription of each speaker turn was linked to the appropriate audio clip in the NVivo transcript, allowing any inaccurate or poorly-captured phrasing to be easily reevaluated during the analysis phase. The transcription was only partially naturalized (Davidson, 2009). Punctuation choices were not rigorous and pauses were only roughly captured. However, most repeated and filler words were retained. I also made the decision to minimize speaker shifts in longer stretches of speech in order to capture responses as utterances. This minimized interruptions to the flow of the thought. In other words, if either interviewer or interviewee made a short response like “Okay,” or “Sure,” I usually inserted these in brackets within the longer response of the primary speaker rather than inserting a new speaker line in

NVivo. Although the fillers were generally removed in later stages of analysis, they were left in the NVivo transcript to retain the flavor of the original.

In the final version presented in this write-up I have removed all repeated words and any filler words that are not important for capturing the emotion or flow. For pauses, laughter, and so on, I use the conventions that Poland (2001) recommended for working with transcribers.

2.4.2 Coding

As already mentioned, a first stage of coding was used to identify emerging ideas, and to generate consistency across participants when moving into the second interview. These provisional codes were also sufficient for summarizing influences, practices, and mediational tools. In addition, interview data was coded in three other ways. Process coding was used to look specifically at design thinking, time codes identified the ways that time was referenced by participants, and two types of structural codes were used at two different points in time. Table 2.6 summarizes the use of coding and other analysis strategies.

Table 2.6

Analysis and coding strategies by research question and chapter

Revised research questions	Data	Analysis strategy	Chapter
What types of influences (disciplinary, institutional, or personal) do instructors report as shaping design decisions for a writing-intensive course, and of these influences, which appear to weigh more heavily in defining the expectations for major writing assignments?	Interview Survey	Provisional codes Process codes Other matrices and charts	Bringing Lived Experience into Design (chapter 4)
How do academic time cycles offer affordances and constraints that shape the design of writing-emphasis courses?	Interview	Time codes	Cycles of Design (chapter 3)
What mediational tools are most salient in the instructor's design process, and to what extent do these tools also guide the instructional process?	Interview Survey Syllabus, rubrics, other artifacts	Provisional codes Process codes Other matrices and charts	The Ecology of Design (chapter 5) Practice in Flux (chapter 6)

2.4.2.1 Provisional codes

I have already noted the logic behind the use of provisional codes during the interview process to capture broad themes and to ensure consistency between participants and across the first and second interviews with the same participant. However, these codes also proved useful for tagging mentions of mediational tools that emerged in discussion of teaching practices and in tagging broad stretches of relevant text for further in-depth analysis.

2.4.2.2 Process codes

Because the focal point of the study is on practice, process codes were part of the original design of the study. However, in fact, I decided to code only the discussion around design and design decisions with process codes. In other words, process codes were crucial in investigating

the first research question, “What influences directly shape a professor’s design decisions for a writing-intensive course?” because these codes associated participants’ design decisions with their reflections about those decisions. To give an example, if an instructor talked about actions related to a textbook when planning a course or described thinking around changes to the course, actions might be coded as “choosing a textbook” or “adapting a textbook.” The focus was on the actions taken by the interviewee as a course planner and designer. Some overlapping of ideas was accepted. For instance, "bringing in different course components" is arguably part of "looking to endpoints" and "coaching writing over the semester." At times, responses were also assigned process codes when actions were excluded as part of the participant’s process. For instance, if an interviewee said that he or she did not collaborate with colleagues at all, the response is still coded as “collaborating or discussing with colleagues.” Clearly, however, the reporting is not comprehensive; participants would not have been able to recreate their full thinking. The full list of process codes can be found in the appendix.

To gain a clearer picture of what the process codes were telling me, I created a table ranking the codes by interview mentions. For instance, a participant mentioning “drawing on prior education” in both interviews would count as two mentions. Then I added a column challenging my assumptions about the data and another column for verifying these assumptions. At this point, some of the codes were excluded as less relevant to the design process, for instance, “coaching writing over the course.” This mechanism for challenging my thinking proved quite helpful for moving into further data analysis.

2.4.2.3 Time codes

Early in the interview process it struck me that some interview participants had focused their comments on how they designed a writing guide for students to refer throughout the four-

year curriculum while others focused on the design of writing assignments within a semester-long course. As I thought about the differing scope of the design, I became interested in how time was shaping the design process. So, I returned to the interview data and coded for each mention of a time span or cycle of time. In many cases, the time word was explicit, "semester," "week," and so on. At other times, the time cycle became evident from the context. For instance, if a participant referred to "this fall," and it was obvious from the context that he was referring to the frame of a specific semester, I coded it as "semester."

After coding for time mentions and allusions using NVivo, I went through the resulting time codes to look for patterns and make interpretations. I did this by pasting the NVivo output for each time code into a Google document, turning each code, curricular span, academic year, semester, and so on into headings. Within each heading, or code, I further organized the mentions to parse how time was being used or understood in each case. Using the Google document in this way meant that I essentially did another round of coding, that is, reorganizing the data in a more fine-grained way to complete my analysis of how time was framing design for these instructors. Thus, the time coding of the interviews became the data set used for the Cycles of Design chapter.

2.4.2.4 Structural codes

While structural codes were not a significant part of the analysis, I used them to check for consistency for three questions in the second-round interview, roughly they were as follows:

- What—if anything has come to mind about writing—or writing assignments in your courses since our last interview?
- Are there any (other) ways that you've re-thought or re-designed a writing assignment for ANY course since our conversation? What impacted you as you thought through the

assignment, your goals or the practice of writing within that course? Describe your decision-making process.

- We've talked about your influences and commitments, that is experiences, beliefs, values (personal, disciplinary/vocational and worldview (religious/biblical, say) and how these impact the way you design writing, or what you want to accomplish with writing in your courses. Do you have anything else to add? Anything we have not already discussed?

I used structural coding to tag these questions across interviews, but I did not use them further in my analysis since the most significant underlying question, whether or not the participant had made changes to the writing assignments or the course, was often addressed more thoroughly elsewhere in the interview.

2.4.3 Analysis of syllabi

At least two syllabi were collected for each participant. In addition, some participants provided or alluded to other artifacts such as the learning management system, rubrics, textbooks and other resources provided to or used with students. Syllabi were analyzed in two ways: through close-reading and through a matrix comparing features of each syllabus, such as assignment genres, the presence or absence of w-course statement, types of assessment and so on. I reviewed and reorganized the notes in another round of analysis while writing the section on the syllabus as a mediational tool, now found in chapter 6.

To compare how participants' syllabi compared with those of other writing courses I examined all W-courses for one semester that fell at the end of the first interview cycle but before the second round of interviews. The goal of this sample was to compare writing courses for content, type, genres, instructional support and writing process, and so on. As with the survey and interview data, I excluded journalism and English. Further, I did not include directed studies,

cross-listed courses or multiple sections with the same course code. Other than these exceptions, I examined all the syllabi for all W-courses across the disciplines, 34 courses in total. This offered a cross-section of W-courses for a single semester and information on what writing assignments are required, what is expected and how they were being assessed. I also looked at how much Summer Institute appears to have influenced W-course design and development in this sample. Because the Summer Institute uses a particular approach to syllabus design, its influence is often obvious. I also gained some clues about how much writing committee policy has impacted design and development of W-courses through the presence (or absence) of the ostensibly required syllabus statement, and gleaned types and goals of W-courses. This syllabi inventory informed the discussion of syllabi in chapter 6.

2.4.4 Other data reformulation and analysis

The interview data was processed in three fundamental ways. The first, already discussed, was through various types of coding. The second was in reformulating the interview data as a prose account that loosely connected topics and brought the participant's voice to the forefront. The third was through the use of matrices, as described in Miles, Huberman, and Saldaña (2020). Coded passages were useful for more granular analysis and answering specific questions, while the prose accounts created a fuller impression of the instructor's design decisions within the context of their history with a course and a richer account of how assignments were structured and taught. Matrices offered a way to bring together survey and interview data along with data gleaned from syllabi and other artifacts.

To create the prose accounts, I combined transcripts from both interviews, loosely organizing the content into topics, starting with biographical details, then shifting to the participant's account of their history with the course, before shifting into a description of the

assignment within the context of the course and concluding with discussion of the participant's design process. All of the participant's remarks were retained except for repeated phrases, redundancies and housekeeping comments. Interview questions and comments, in contrast, were deleted or replaced with short phrases to provide context and flow. The template was kept largely consistent for each prose account. The resulting prose account served as a reference document for checking the analysis and summarizing cases.

A variety of matrices were used for delving more deeply into the meaning of the data collected. These included design thinking influences, pedagogical goals, student futures, and comparison of syllabi.

2.5 Change in scope

I have already alluded to some changes in the research plan as a result of emerging data. However, I also decided to narrow the scope of the research after I collected most of the data. Table 2.7 shows the how the study was narrowed compared with the original conceptualization of the project.

Table 2.7

Changes in research questions of course of study

Original research questions	Revised research questions
What influences directly shape a professor's design decisions for a writing-intensive course, most explicitly in terms of defining the writing assignments qualifying the course to be designated as writing intensive?	What types of influences (disciplinary, institutional, or personal) do instructors report as shaping design decisions for a writing-intensive course, and of these influences, which appear to weigh more heavily in defining the expectations for major writing assignments?
How does the professor balance content and writing goals in a writing-intensive course? How does one serve the other?	How do academic time cycles offer affordances, constraints and opportunities to balance content and writing goals in the design of writing-emphasis courses?
What mediational means convey the metadiscourse associated with the assignment? That is to say, what specific artifacts do instructors prepare to scaffold the writing assignment?	What mediational tools are most salient in the instructor's design process, and to what extent do these tools also guide the instructional process?
How are the influences traceable in the conceptualization of the assignment? That is, how are these goals, beliefs and values instantiated in how the assignment itself is defined and the thought processes behind its development are described by the professor who created the assignment?	Not included in this study
How is this discourse, namely the language used to describe the conceptualization of the assignment and its goals within the course, field and institution, visible in textual traces in the supporting materials used during the instructional process?	Not included in this study

2.6 Time and the study

Another impact on the research project involved the extended time of the project and how changes over time impacted the process and findings. Time and change will inevitably insinuate themselves in a study and have some impact on the findings. This can be a curse, and it can be an opportunity. In this case, having two interviews separated in time allowed me to look at how

things had changed between the first and second interviews. I also hoped to check back with participants about a few practices mentioned in the second interview, but one consequential event that impacted this study was the arrival of the Covid-19 pandemic right at the end of the second round of interviews. As a faculty member suddenly faced with translating courses from in-person to online format in a short amount of time, I set aside my research for several months, slowing the analysis phase substantially. This also complicated my follow-up plans because my participants' practices also changed suddenly and dramatically at the same time. The impact of changed practices through and after the pandemic period promises to be an interesting object of study, but I decided to exclude it from my research, opting instead to stick with more incremental and ordinary change.

2.7 Researcher positioning

In any qualitative project, it is useful to engage the question of researcher positioning. The researcher, as Denzin (2001) reminds us "is not an objective, politically neutral observer who stands outside and above the study of the social view" but is "historically and locally situated within the very processes being studied...a gendered, historical self is brought to this process. This self, as a set of shifting identities, has its own history with the situated practices that define and shape the public issues and private troubles being studied." (Denzin, 2001, p. 3)

Brinkmann and Kvale (2015) deny that interviews reveal an underlying "authentic self," but rather "the possibility… that interviewee subjectivity is not so much *revealed* as *constructed* during social practices such as interviews" (p. 107, emphasis in original). In any interviewing situation, the interviewer and the interviewee establish a relationship within the situation as its own nexus of practice, a research moment. Further, the interviewees bring to the moment their

understandings of and attitudes towards academics and academics engaging in research. It is likely to be easier where both interviewer and interviewee are academics who value academic research, and an interviewer perhaps further benefits from an interviewee who wants to aid a novice researcher in the dissertation process similar to what they themselves went through. When the interviewer adds another role into the moment, that of colleague with a shared understanding of the institution and its values and a shared commitment to an overlapping set of students, one may again find themselves in what appears to be a low-key and collegial discussion with plenty of common ground. This, however, is not without its own set of risks.

In fact, it is interesting to compare the implied relationship in this case with what Eodice, Geller & Lerner (2016) discovered in the Meaningful Writing Project, a study of what undergraduate writers defined as meaningful writing assignments. In this study, student researchers were trained to conduct the interviews with the participating faculty. The decision to use student interviewers had been a strategic one in an earlier phase of the study when interviewing student participants, an effort to get closer to the student perspective. When the research team also chose to use student interviewers with faculty, they stated, "We were struck repeatedly by the honesty, frankness, and at times, fragility of faculty experiences. We do not imagine faculty would have been similarly open describing their experiences to fellow faculty, particularly ones they might see as 'experts' on the teaching of writing" (p. 17). In other words, Eodice, Geller & Lerner (2016) point to the fact that while collegial relationships may offer shared experience, they may also involve a level of self-protection.

I can only speculate about the consequences of my positioning as a colleague to my interviewees. While the interviews generally felt amiable and open, I am, of course, a prisoner of my own perceptions. I also realize that I did not ask any questions that would invite complaints

or criticism of the institution or its policies. While there is no particular reason that I should have done so–my research questions did not entail such a focus—the fact that it did not even occur to me demonstrates something about my positioning within and attitudes towards the institution. In fact, one survey participant wrote in a comment that argued that their course wasn't suitable as a W-course, but the department needed one, so the requirements were forced on a course. Clues in the wording of the comment suggested it may have been an interview participant, but this individual did not convey the same frustration in the interview. If this is the case, it demonstrates how the more anonymous nature of the survey could have made criticism more comfortable. It is interesting to speculate how my role as a colleague and possibly even an emissary of the writing committee (vaguely, because I am an English professor, and as researcher of writing, clearly, pro-writing) could have meant that I did not invite expression of criticism that was nevertheless there. While all of this is speculation, it does demonstrate how an interviewer's positioning may change the nature of the data.

2.8 Verifying findings

Crucial to any research study is building in mechanisms for verifying that findings accurately illuminate the object of study. One way of doing so in this study was by comparing interview data with survey data and artifacts that structure or reflect practices. Another is in applying several kinds of coding. While this does not bring new data to bear, it does allow shifts in vantage point when viewing the initial data set. Likewise, multiple rounds of coding—or following coding with matrices—meant that I had a chance to revisit and challenge my initial assumptions of what findings meant. Finally, asking participants to check if the description and explanation of their practices fits their understanding is an important verification strategy. I used this later approach near the end of the writing process by preparing an excerpted draft for each

participant, inviting them to check if I had accurately and fairly reported their experiences and practices.

2.9 Limitations and challenges

One inevitable limitation of any qualitative study is that by zeroing in on one set of participants and focusing on practices in one location, one cannot be sure that experiences and points of view are representative or generalizable. This issue was particularly evident in this study because I included only ten interview participants and twenty survey responses, meaning it is difficult to be certain that the findings are representative. In fact, most interview participants were not newcomers to the institution or to W-courses. This meant that they were rooted in the institutional culture and thus offered valuable insights into institutional values and practices. At the same time, this also meant that the study largely reflected the experiences of individuals revising their own long-standing practices rather than newcomers navigating unfamiliar practices or beginning to adapt courses and materials to fit their own styles and preferences. Instructors of W-courses may tend to be more experienced, which would make this sample moderately representative, but I also chose participants who currently taught or had taught more of these courses. A fuller range of experience levels might have been illuminating.

Another limitation involves the fitness of approach. Other researchers researching the writing or design process have used think-aloud protocols or observation, both of which inevitably bring a researcher closer to the process under study. This investigation depends on what participants report of their practices at some remove from when they actually performed the actions and thought through the processes. An approach used by Prior & Shipka (2003) was to invite participants to draw a visualization of their process using sketches and arrows to capture moments and steps. The artifact served as a focal point for the participant to describe his or her

writing process. In my original protocol, I planned to follow Roozen's (2016) reflective interviewing strategy, in which he used samples of participants' writing to focus discussion during the interview process but elected not to use visualizations like Prior & Shipka (2003). In fact, the visualizations, think-aloud protocols and observation can all offer additional data beyond reflective interviewing that can enrich understanding of writing practices or design thinking. In the end, my interviews focused more on general practices than specific design moments, and I believe more emphasis on the latter would have been illuminating.

A related challenge had to do with inconsistencies in the interview protocol. I did not ask interview questions in the same order nor necessarily with the same wording across interviews. The flexibility and serendipity may have had benefits, but using a more organic rather than a structured process likely made it more difficult to compare practices between individuals. The most obvious example was an interview where I decided to largely reverse the order of the questions because I was particularly interested in the participant's biography. I planned to focus more on his practices in the follow-up. But the second interview with this participant never happened, first, because it was scheduled just as all on-campus activities were cancelled at the arrival of the pandemic and second, because of the ensuing busyness of the times. Not being able to complete a second interview with this individual meant that I ended up with very little data about his practices or design thinking. One intervention that did help to resolve the problem of consistency was the coding process between the first and second interviews, as previously discussed. However, I believe the interview data could have been improved by following the planned protocol more closely.

A final challenge came during the analysis process when I lost access to NVivo data when the license lapsed. Renewing the license would have required reinstalling the program, so

rather than tackling the concomitant challenges, I opted to use versions of the data saved in Google and Word documents. While most data was accessible through this workaround, it is possible that some granular detail was lost as a result.

CHAPTER 3

CYCLES OF DESIGN

An instructor takes notes on his roster, penning changes to make to the class the next time he teaches it. Later he refers to these notes as he plans a new semester's syllabus. Yet another professor leaves class, returns to his office, opens the computer file for an assignment, makes the changes that emerged from that day's class, and saves the modified document in a new course folder, ready for the next time he teaches the same material. Many instructors teach the same course, perhaps at yearly intervals, each time the same class yet each time new. These practices show the recurrent cycles at the heart of academic life. Instructors build today's class within this week's content to build this semester's share of learning. The semester slots itself into an academic year. Arching over the practices of a single course are the trajectories of a curriculum, those four-year cycles—ideally—in which students will complete a course of study to equip themselves for a particular future. Above all of that is the span of the professor's service at an institution within his or her productive professional lifespan, which can exceed years of formal employment. Many professors continue to serve in emeritus capacities, attend conferences, continue to build knowledge through research and writing and mentor newcomers into their disciplines or fields long after they have formally retired.

The design thinking that builds assignments or mediational tools, courses or curricula is shaped by a complex system of timescales, often nested, sometimes clashing, simultaneously available as an arc of focus. A lack of focus, of course, does not mean absence. Each continues to operate whether or not we are aware of it. However, design work tends to bring one or another timescale into focus for a given design thinking task. As professors design writing assignments, for instance, some design work focuses at the level of the overarching curriculum. Much more

often a specific course in a particular semester is the focal point but embedded within the curricular trajectory, a reality that comes in and out of focus for the professor, depending on the moment. In each case, professors reference the imagined futures of the students and their understanding of their own practices within these nested and embedded practices, assignments, courses, and academic programs.

Design operates within present time, interrupted or constrained by other intersecting time demands. Deadlines and calendar benchmarks can accelerate or impede the design process, and the designer must work within a daily routine, subject to the claims others make in the moment as well as to the rhythms and demands of one's own biology. By definition, design also looks forward, with a hoped-for endpoint that intervenes in an imagined future. Thus, time and time cycles shape design in often complex ways, as indeed time acts on all human activity.

The time of design offers both forward trajectory and cyclical renewal. One participant that I interviewed demonstrated this reality as he contemplated continuing curricular innovations in his department. "We haven't ever reached there, this point yet in our department... for years I've been saying that we need to have a clear picture of what our graduate looks like, what do we want them to look like when they leave." This comment demonstrates both a sense of recurrence and renewal, of a succession of upgrades and improvements fashioned to greet each new cohort poised to move through the curriculum and emerge on the other side at the end of the cycle. It also gropes towards a future: a prototypical graduate, prepared through an ideal curriculum, optimally equipped for what lies ahead.

When a familiar cycle returns to its conventional starting point, it harnesses the psychological power associated with beginnings, as most of us recall from our experiences heading into a new day or a new year. In his popular account of time in human life, Daniel Pink

(2018) points to psychological research that corroborates the impact of this boost. Each new beginning combines the familiar rhythms to a sense of forward momentum, a trajectory that is also present in the design process. Design interventions cluster around these beginnings. Whether for those who plan in advance or those who tend to put things off, the actual practice of design is oriented towards these points.

Adam (1998) uses the term *timescape* to refer to the "complex temporalities of contextual being" (p. 11), but to map this terrain more minutely means delineating different rhythms, pulses and cycles. First, the concept of *timescales* proposed by Lemke (2000) allows us to zoom in or zoom out, making time visible from the micro-scale of biological processes briefer than heartbeats through the meso-scale of daily routines and institutional calendars up to the macro-scale of lifespans and epochs. "Every human action, all human activity takes place on one or more characteristic timescales. A heartbeat, a breath, a step, a spoken word takes but a moment; a stroll, a conversation extends over many such moments; and an education or a relationship may be a lifetime project" (p. 273). Studies in which process is a focal concept can be enriched by noticing the structuring effects of different timescales, whether these are imposed from outside, like a semester, or intrinsic and organic, like how long a class discussion takes. "Every process, action, social practice, or activity occurs on some timescale (in complex cases on more than one timescale)" (Lemke, 2000, p. 275).

The concept of timescales offers a way of distinguishing duration and seeing shorter timescales as nested or embedded in longer ones. But another useful way of describing time is the concept of *rhythm* (Lefebvre, 2004), which combines the idea of repetition and difference, of recurrence of the similar but not the identical. Rhythm correlates with "a place, a time and an expenditure of energy," and it involves "repetition (of movements, gestures, action, situations,

differences); interference of linear processes and cyclical processes; birth, growth, peak, then decline and end" (p. 15).

Michel Alhadeff-Jones (2021) singles out some features of rhythms that can be helpful for deeper understanding. For instance, we can refer to "the *period* that characterizes the repetition of a pattern (time spent between the two occurrences)" but also attend to "its *frequency* (how many times a pattern is repeated) and its *tempo* (how does the rate of repetition evolve through time)" (p. 32). If we understand timescape as metaphorically akin to landscape, then rhythms are akin to current, the flow and motion through the timescape, and timescale points us toward the idea of *period*.

Alhadeff-Jones (2021) applies the concept of rhythm to academic life, in particular to theorize the clashing pulses and cycles of the academic timescape that pose tensions to those involved in academic work in an increasingly market-driven environment. "At the level of the institution, the equilibrium of a system is sustained through the repetition of the patterns that defines its temporal organization: sequences of actions, cycles of activity, and so on" (p. 32). At lower timescales, instructors have some agency over cycles while the actions of chairs and deans may matter more spread over longer time cycles. Within these longer arcs, institutions establish calendars that govern practice, cycles that appear on the timescape as largely predetermined but still constructions, as nods to agricultural cycles, seasonal rhythms and cultural pulses.

Lefebvre (2004) and Alhadeff-Jones (2021) both see the notion of rhythm as capturing the recurrent nature of time, a feature that is also crucial to Giddens (1984). Giddens' theory of structuration demonstrates that as human beings experience recurrent cycles of activity, they abstract meaning. Similarities available from recurrence allow humans to extract generalizations from repeated experience, a point that is usefully and crucially made in rhetorical genre studies,

which themselves owe a debt to Giddens (Bazerman, 2002, Miller, 1994; Miller, Devitt & Gallagher, 2018. For analytical clarity into how time shapes design thinking, we need the capacity to zoom in and out. The use of *timescale* offers a way to do that. Lemke (2000) intends the term *timescale* to capture both the ideas of uniqueness and typification. To foreground the rhythmic and recurrent nature of time along with the analytical precision connected to scale, I have chosen to use the term *time cycle* along with *timescale*, depending on whether my focus is linear duration (timescale) or recurrence and the association of particular meaning from the abstraction that comes from that recurrence (time cycle), an operation that I see as similar to the genre-ing phenomenon of rhetorical genre studies. In other words, the instructor as designer experiences multiple iterations of a course and within it, one or more writing assignments, guiding multiple cohorts through the assignment as it varies over time. The designer, as a reflective agent, makes conscious corrections–design interventions–after each round. We might also note that the designer's brain is ever at work beyond conscious attention, abstracting patterns and adjusting reactions. Such a process is, essentially, a genre-ing process (Graham, 2020) in that the time cycle and its actions are experienced as typifications that structure action.

Time cycles may be fully consistent in their period, mostly consistent or quite idiosyncratic. A week is seven days for everyone, but in a 75-minute class session, a teacher may dismiss the class a few minutes early or let the lesson run a little long. On the other hand, an assignment cycle, that is the time from explaining and assigning the task to the deadline for collecting it, can vary depending on the goals and complexity of the assignment. Yet this time may still be appropriately seen as a cycle to the extent that it is experienced as recurrent and typified. Some examples that showed up in this study involve phrasing like "next time they do it again" or "so, we're not taking that one and redoing that one. But we expect to see these things

incorporated into the next one." In these two examples, students experience the repetition of a similar type of assignment within the frame of a single semester, that is, multiple, similar assignment cycles. But similar instances can be seen when an instructor teaches an assignment one semester and imagines the same assignment taught in more or less the same way in the next iteration of the course. I should probably pause to point out that recurrence is not an essential feature of an assignment cycle, though repetition is one of the things that makes a cycle salient and thus folds it into ongoing practice as a type rather than a singular experience. A student or an instructor might participate in a single iteration, but in any case, there is a bounded time frame associated with the assignment as a project, such an experience might potentially recur for student or instructor, and the cycle is nested within the longer trajectory of the semester, the academic year, and so on.

As already mentioned, time cycles are both unique as well as typified. Instructors never teach the same assignment twice. If we define the assignment in terms of the instructor's conceptualization of it, as the product of a design process, then there is one per semester and the next iteration is the same assignment in a genre-ing sense, that is, retaining a prototypical common core even as it evolves. Both ways of looking are useful—to see the next semester's version as the "same" assignment or to see it as a new incarnation, a body of regenerated cells. It is the recurrence and embedding within time cycles that enable the different vantage points. An instructor may talk about "this time," thinking of a semester, "next time," thinking of the return of a particular scheduled course over an academic year, or "every time," thinking of his or her history with the course, within which the other cycles are nested. It is this longer biographical cycle where developmental changes can be observed in terms of the historical body and evolutionary changes within the assignment over time.

In another way of viewing things, a single iteration of an assignment represents multiple unique assignments. A class of twenty students receive the "same" assignment but do not have identical experiences. For instance, if we follow Lemke (2000) to see a classroom as a node through which multiple individual trajectories travel, we can agree that no student experienced the same lesson as another. Each student is "interacting with the teacher and the semiotic artifacts of the room and with each other in ways that depended on his or her trajectory up to now (and now-in-progress)" (p. 284), and these do not represent identical experiences. What Lemke is pointing to, in fact, is that each student bears a different historical body, to use Scollon & Scollon's (2004) term, and thus demonstrates "considerable differences in affective engagement, in evaluative dispositions, in relevant knowledge and skills, and in resources for integrating the events of the moment into patterns that will persist on longer timescales" (Lemke, 2000, p. 285).

So, a goal here is to see time cycles as typifications abstracted from similar yet unique experiences. By zooming in or out at different time scales, we can see different features of the design process. As an analogy of how attending to different cycles focuses attention differently, we might think of a bicycle ridden around a circular track. If we are watching a race, our attention is likely to be on the bicycle's circuits of the track. If we are participating in a physics lesson, the rotations of the wheels could be of equal interest. Both involve circular motion, but each operates with a different periodicity and fulfills a different function within the process. This example also emphasizes the concept of nesting cycles within cycles. As Lemke says, "there is always also a higher level process already in place, already running on its own longer timescale" (2000, p. 276). These longer timescales provide the context within which activity

takes place. "These contexts, however, are not static; they are themselves processes unfolding in time" (p. 276). But not all time cycles nest neatly.

The timescales and time cycles in the timescape inevitably create clashes or conflicts, as well as, at times, reinforcing one another. Adam (2021) refers to timescape as a "compound time" applying to "lived and socially constituted abstract time" and theorizes it with five features: first, *time* "framed/bounded extent of varying length, which is imposed externally; *temporality*, "as process time, which is marked by inescapable change"; *tempo* "as the speed and intensity of processes"; *timing* "as both the right time and the synchronization between" various elements, and "the modalities of time," *past, present, and future*. As we can see it is the feature of *timing* that comes into focus when we consider how an individual needs to synchronize differing times or timescales and to shape processes to fit the time allotted, but also when an individual or group of individuals need to synchronize with each other. "We can see that tensions arise in the interstices of the different temporal spheres, that is, among nature, society, home, work, production, employer, employee, economic exchanges and the money economy, for example" (Adam, 2021, xix). As most of us know, the challenge of synchronizing time cycles across these different spheres has mental and emotional costs.

The necessity of attending to timing is crucial in design thinking, and at times, it can be almost overwhelming to navigate the complexity of the intersections and overlaps. One participant, political science professor Pamela Sherman, emphasized this point in our second interview. Referring to the first interview, I noted that she had alluded to "the work-life balance as a design concept." She responded emphatically.

> Yeah, absolutely, you know, because you're thinking about how much time is this going to realistically take a student. You know, obviously, you have students on the fringes, on

> one extreme or the other where they get through really quickly or they take much longer, but your average student, what does that look like in terms of workload and wanting to make that feasible, wanting to make that attainable? And so, you know, when I'm thinking about how many pages of reading I am assigning that is part of my design in terms of that workload or how many writing assignments I'm assigning… Two to three pages, done 12 times over the semester, that's a lot, you know. So then how do you pare back that so that they are getting exposure they need but also getting some time to also work on other classes, and, you know, feel like they have the quality of life? So, you know, that design element comes in there when you're designing your syllabus.

Clearly, the clashing demands from other timescales and the interlocking nature of the instructional time cycles is a very present force on how professors imagine and plan for the future, that is, how they perform design. In her comment, Pamela emphasized the students' time commitments. Another participant, who taught multiple writing-emphasis courses, spoke as an instructor struggling to grade rounds of papers and maintain a work-life balance. As one remedy, she proposed adjusting course loads to help instructors manage multiple W-courses, as she discusses here:

> I submitted something. A proposal. It got approved… Basically, I did the calculation because currently as it is a dean could ask a professor to teach a hundred students. And I did the math: if you were to read 100 pages- I mean, ten pages times one hundred three times, it's close to like 2000 pages, and then- anyway, so I did the ridiculous calculation of that, what that would mean and I said, this is unsustainable. So I said, let's be a little bit more realistic and at least say 50–cuz I've noticed that across the board nobody teaches

more than 50 students per semester for writing–and I was at 60 something or 59 or 60, and I've been burning out in the last few years on that.

But Pamela's comment on intersecting and clashing time cycles was not the only piece of evidence that demonstrated that instructors' awareness of time impacts design decisions. I found multiple points of evidence in the interview data, demonstrating that professors do view their design as operating within bounded timescales and as a cyclical process, that design thinking occurs at different points in these cycles, and that they view different timescales as focal at different points of intervention.

One obvious indication is that their discussion of design practices is peppered with time references. To capture the ways that participants referenced time, I coded interview data using explicit time references, such as "week" as well as indirect references to a time cycle, such as "this fall," meaning "semester." The largest number of mentions, mentioned at least once by each participant, was "semester."[6] The second highest number of mentions was "week," but only seven of the participants referred to weeks. In these two cases, the code typically represents the explicit use of the word, but participants did not always refer to time cycles by using an explicit label. Nevertheless, codes represent the presence and salience of that time cycle to their framing of instruction and design for instruction--of assignments, a course, or the curriculum. See Table 3.1, ordered by period of time cycle from largest to smallest.

[6] This discussion represents the most popular system of scheduling, that is, the semester system. While the dynamics would be similar in other cases, they wouldn't be identical.

Table 3.1

Time cycles ordered by timescale, larger to smaller

Time cycle	Participants (N=10)	Coded mentions
4-yr curricular span	9	47
Academic year	9	32
Semester	10	95
Week	7	54
Class session	8	43

The presence and salience of time cycles is also indicated by recurrent redesign practices. A physics professor, for example, when asked about how he created new assignments was stymied for a moment. “Um... I don't design- I don't design that many assignments." However, not only did he talk about what he did typically in the target course, but he spoke of the changes that he had made and planned to make. Thus, design thinking is present in the notion of redesigning and improving courses and assignments, and this thinking is obviously shaped by the period of recurrence, which varies by course. References to these redesign strategies and practices serve as evidence that these instructors did view their innovations and adaptations as occurring within a recurring cycle of the semester, nested within a larger recurring cycle, that of the academic year, or in some cases a multiyear cycle, if a course was taught every other year or every several years, or even indeterminate, “the next time I teach this course.”

The following section looks at some recurrent time cycles and how these shaped design thinking for interview participants. For convenience for our discussion of timescales and time cycles, I begin here with those regular cycles set at the institutional level, moving from the larger

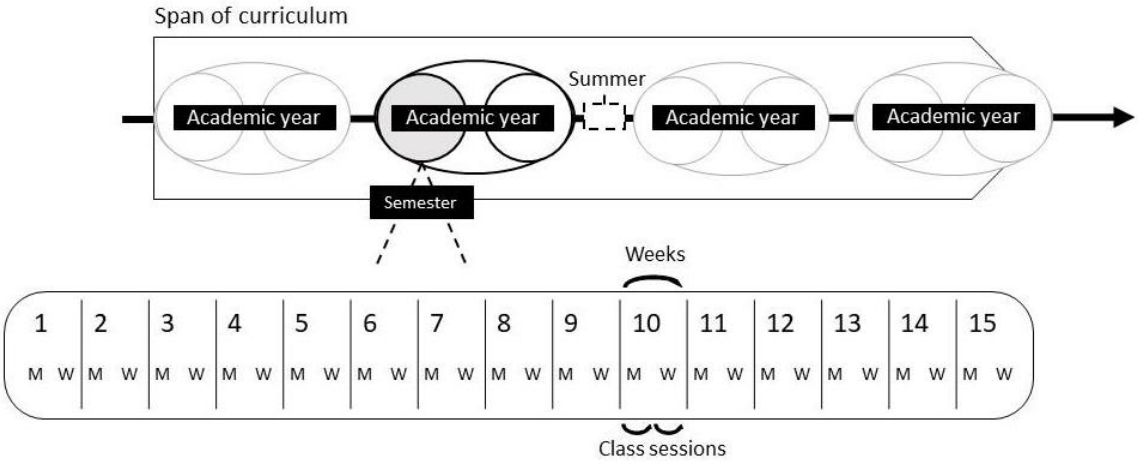
to the smaller. The reason for beginning with these has to do with their structuring effects and pervasiveness, and how they offered a common point of reference for other members of the community of practice.

3.1 Set at institutional level

A number of time cycles are set at institutional level, linked to calendar and clock, impacted by custom, affected by the policies of regulating bodies. That is to say, all of these time cycles are somewhat out of the control of individual academics although they may have input in terms of their scheduling, as members of institutional or departmental working groups, for instance. Figure 3.1 represents a typical view of the different cycles and how they might be nested.

Figure 3.1

Time cycles in academic life



3.1.1 Curricular span

Since this study looked at undergraduate programs, the typical curricular span involved a four-year degree program. For two participants, the curricular span was the focal timescale for

the design process that they discussed. However, even professors who focused on a single course, whose design was understood to function within a particular course for an upcoming semester, made reference to the larger program trajectory, meaning that their course was seen as nested within the larger program trajectory and the larger program trajectory exerted a force on the design.

Bruce Ivers is an example of a professor whose design focus spanned the curriculum. What came into focus over the course of the first interview was the design of a writing guide for students in the major. Students are introduced to the guide when taking the introductory course and sent back to the guide repeatedly over the course of their studies. It serves a standardizing role for professors and for students in the cluster of majors offered within the department. Bruce described the design.

> I wrote a biology writing guide now that we use in all of our classes starting the freshman year. Freshman year if you have to make a figure, you go to the biology writing guide and it shows you how to make that figure. Do you have to write an introduction? You go to the biology writing guide, tells you how to write the introduction, all the different parts... it even... has a part for the analysis so if you're gonna do analysis, there's a whole section there for... which statistical test do you use... so it's standardized, so now students aren't sitting there… as they're moving through guessing, how does this professor want it done? ...so when you go to publish something… follow the writing guide.

Like Bruce, art professor Ariana Harris designed a writing guide that served the larger curriculum of the twelve bachelor’s programs offered in art, but, unlike Bruce, she balanced that focus with discussions of how the guide operated within several specific courses, and in fact, the impetus for the design arose in reference to challenges that she had faced teaching those courses.

The booklet, referred to as a museum journal, served incoming students as a guide when they visited an art museum in their first freshman course. They then applied the concepts later when they took one of Ariana's art history courses somewhere in the middle of their program. The museum journal guided the students' ability to view and analyze art in the introductory course and in their art history course, but also provided a heuristic for a deeper analysis of art in their senior capstone course. While the guide was not specifically designed for the more hands-on courses in animation, film, graphic design or fine arts, students had it available as a reference in those courses as well.

Besides Bruce Ivers and Ariana Harris, the other interview participants focused their discussion at the semester timescale, but they still spoke of the ways that their courses built on a developmental trajectory tied to the curricular span. We should note that at this institution writing emphasis-courses had been defined as upper division courses. Thus, not surprisingly it was common for them to be a culminating course in the curriculum but even when they were not, the curricular sequence was generally salient to participants. Nine of the ten participants emphasized the target course's position within the curricular sequence, either loosely in terms of developmental assumptions, or explicitly as part of course sequencing. In other words, professors alluded to how the target course built on an assumed foundation from previous courses, how it connected to upcoming courses, or if the course was a culminating one, how the course aimed to ensure that graduates had a particular habit, skill or mindset deemed essential for graduates.

When courses were seen as playing a culminating role within a program, participants tended to be explicit about the outcomes they were designing for. For instance, Ariana Harris notes that one of the W-courses discussed "is the culminating course because we really as a

department want to make sure that they get the Christian worldview." In this case, the writing project explicitly asked students to integrate their own worldview with reflections about a particular artist. Since most students did share the faith tradition that the university was affiliated with, the assignment met the goal of reinforcing that worldview. Those who did not share this background were invited to articulate their own philosophical commitments but the assignment directed them implicitly, if not explicitly, to examine the Christian worldview as a point of contrast, and thus these responses still met the pedagogical goal.

A course in the philosophy of education played a similar culminating role. For Ellen Deere, the instructor, the course was "not a capstone, but it certainly is a bookend to their education courses because I think they need a chance to have had a lot of exposure to education courses so that they can pull together their own philosophy from what they have learned. It could not be a beginning course. It needs to be an ending course." Ellen inherited the course but noted that such a course is typically part of teacher training. The goal of synthesis and reflection that the course represents was kept focal for the professor as she tweaked the course to better accomplish these goals.

Even when a course did not play a culminating role, participants were aware of its position in the sequence. They often mentioned foundational skills that students had acquired in earlier courses, and the way that their course built on these skills. Biology professor Bruce Ivers, for instance, described what students typically knew as they moved into the first W-course in the research track, "By the time they [have] finished Biological Analysis, they've got introduction, methods, results, you know, by that time, they have a good idea of how to write the whole paper… So when they come into Proposal Writing, they're not coming in completely blind."

Another example comes from chemistry. Craig Hoffman explained that when students diverged from the common sequence, instructors needed to customize the content a little more to ensure that students had the foundational knowledge needed. "It's nice if they've already had P-Chem first because of the actual training that goes into that, with scientific writing. If they have not had that yet, but they're taking Introduction to Research, we use the same textbook on writing, we teach them the same things, but it's more individualized training than group training." He noted that P-Chem was not required as a prerequisite for the research class, but the research class built on its assumed foundation, both in the scientific concepts and writing aspects. This example again demonstrates that where professors were primarily focused on designing a course for a single semester, they were nevertheless likely to reference the curricular cycle in many cases.

At one remove from the curricular span as such, there was some evidence that the idea of a class being 100-, 200-, 300- or 400-level was fairly salient to professors. The notion of the course codes is, of course, tied to an imagined curricular span. Evidence that the classification can impact design comes from Pamela Sherman, who said, "I guess I'm assuming since it is a 300-level course that they already have enough writing experience to be able to handle the writing assignment I give them." At another point she alluded to the distinctions even more explicitly.

> Because if you're at a 300-level class.., I should not have to read your mind and I'm not to be rude when I'm saying this but like, I'm preparing you to be an adult. I'm preparing you if you don't understand the assignment, whether it's at work or in grad school or in law school, it's on you to come and discuss that because now you're an adult. And so there's this transition that takes place I think between 100-, 200-level classes and 300-[level]

> courses, where students really have to play more of a substantial part in getting information.

In this discussion, Pamela was explicitly referencing an imagined developmental trajectory, a growing maturity in critical and emotional reasoning normed to the different course levels.

So, to summarize the curricular span as a time cycle, it is likely focal at the program level, but, at least in this sample, instructors, too, considered the larger sequence as they designed a course and its assignments. For culminating courses, instructors reinforced core concepts for the program to ensure that certain reasoning strategies and writing styles were mastered. Even when a course was not seen as culminating, professors referenced an assumed foundation, pitched the course at a particular developmental level, and envisioned how the course would move students to the upcoming courses and beyond into their professional lives.

3.1.2 Academic year

The academic year is another recurrent cycle that can serve as a reference point for instructors. As with the curricular cycle, interviewees did not often describe it as a frame for designing courses or assignments, but they still referenced it frequently. The academic year offers both continuity and evolution. Courses recur as scheduled within the larger academic calendar. But, at the same time, programs change slightly from year to year. The administrative work that defines and refines programs has its own recurrence cycles and a particularly salient one appears to be the academic year. When departments or schools have meetings at the end of a school year to review practices and policies, or before the fall semester begins, they mark this cycle. Further, catalog change deadlines are likely pegged to the annual cycle. It is possible, of course, that some courses, particularly in the sciences, might be assumed to stretch over a whole academic year, but in my sample, I saw little evidence of professors seeing courses in this way.

The main way that participants referred to the academic year related to the placement of courses within the larger year-to-year cycle of the academic calendar. Some of these predictable references were “this fall,” “this year,” “next year,” “every year,” “every fall,” “in the last couple years,” and so on. As we can see, salient here is the sense of repetition at regular intervals. We can also see that “fall,” marking the beginning of the first semester and by the same token the school year, also referred to the yearly cycle, while quite possibly referencing the course that recurred in the fall semester year after year. Evidence of this was the pairing of the two by one participant, marking the time first as “last year” and then later in the sentence marking the same reference with “last fall.” So, while this instructor was designing for a semester, they were marking the passage of time and the recurrence of the course as tethered to the cycle of the academic year.

Another good indication of this sense of recurrence came when Pamela Sherman made the point that each iteration of a class had a different feel or dynamic. “You know, each year is different as you well know, each round of students, each cohort of students. You could have a great class last year and think, oh, it's working beautifully and then the next year you're like, I didn't change anything, what happened?” The course that Pamela was discussing was a one-semester course. Yet she referred to its recurrence as pegged to the yearly cycle. It was the year that was mentioned, but the one semester course was nested within the academic year. In other words, the smaller cycle, the semester, was implicit, present but not referenced. Pamela’s comment captures the sense of recurrence, seeing the annual return of a course as familiar and yet new as changing groups of students change its texture and feel.

While it was obvious from the interview data that professors typically designed for the semester with some design work as an ongoing activity during the semester, the yearly academic

calendar has affordances for scheduling more intense emphasis on design. Sara Olson was an interesting, and for this sample, rather unique case. At one point she mentioned how she maps her design within the academic year. “I don't know if I told you but usually summer's my time to update the course. I've been teaching this course for six or seven years now, so usually I use the summers to do… major overhauls." The fact that Sara had an adjunct contract turned out to be crucial in terms of this decision. She pointed out that university policy required that adjuncts upload the syllabus to the course schedule before their contracts were signed. “Maybe adjuncts have a little bit more of an incentive to do it because you can't get your contract signed until they're up… I just wanted to make sure to get it up there for the students, so that they could purchase the text they need to in time and things like that. And also, yeah, like I said, in order to get our contract signed and to get paid starting in September we need to have it up there.” Two other factors also likely played a role for Sara. First, there is the obvious possibility that a new academic year serves as a logical reset point. In addition, at the time of the interviews, Sara was concurrently working on her own doctoral studies, so the summer was perhaps lighter for her in terms of other time demands. Thus, it is likely that these several time cycles juxtaposed for Sara and generated the impetus to do the redesign during the summer.

Sara’s case was somewhat marked because of the terms of her contract, but the notion of summer as time that lies outside of or at least differs from the conventional academic year relates to another notable feature of academic time: academic time features periods where instruction is not scheduled, such as mid-semester and post-semester breaks loosely-linked to seasonal rhythms and holidays. Design work was often allocated to these periods, as indicated by Pamela Sherman’s comment, “I'm making adjustments this week, so I hopefully don't have to do it over winter break as much." The interview took place near the beginning of the final exam week,

meaning that the workload was distributed differently compared with the normal weekly schedule of classes. This comment demonstrates how the rhythms of time impact design thinking. Exam week disrupted the normal rhythms of the semester. This may have freed up time or shifted the daily and weekly schedule to generate new efficiencies within the underlying rhythm. Even if we are to understand the comment as simply a statement of intention, of the desire to do more now to free up time later, we still see the rhythm of the instructional periods followed by the periods of break as being crucial in how Pamela planned her design work. In this case, we see the winter break as planning time, offering an opportunity in the present to lighten the burden in future time cycles.

A final way that the annual calendar can impact design relates to the rhythms of the institution, in, for instance, offering training or other opportunities that recur at particular points in the annual cycle. At the time of this study, the institution offered a regular summer training that for some instructors served as a focal time for doing design work, a one-week summer workshop designed to help professors integrate biblical principles with course content and to improve active learning strategies. Two professors indicated that they had participated in this program and used it in that way. One, nursing professor Robin Nelson, noted that she had participated five times. In the workshop presenters encouraged faculty to focus on one course, either to develop a new course or to rework a current course. Given that participants in this study seldom developed new courses, it seems reasonable to assume that Robin used the opportunity to make revisions to courses that she was planning on teaching in the upcoming academic year.

As we have seen, the academic year serves as a reference point within which semester-long courses are nested but also offers salient periods for course design and redesign. In other words, the academic calendar affects the *when* of design. But in a few cases at least, the

academic year also offered recurring events that may have had at least a minor impact on course objectives and scheduling, that is, the *what* of design. Participants mentioned a few of these. Four professors mentioned the annual campus research day as an opportunity for students to present research as part of their course. In this case, instructors had to design the parameters and timing of a research-based writing assignment so that students could submit and present the right sort of work at the right point in the semester. When an event is scheduled on the annual calendar therefore may matter for design. An event that played a similar role for the biology research track, for instance, was a regional undergraduate research conference. Students in the track were encouraged to attend as observers in their sophomore year with the goal of presenting their research at the event their senior year. In each of these two examples, annual research events had to be factored into course planning, and both were tethered to the academic calendar, although in the second case not specifically that of the target institution.

As we have seen, the academic year was salient as a conventional reference point for discussing the academic timescape. It was also a salient canvas that included semesters as well as the planning and debriefing periods at their margins, offering a cycle that governed the professional and personal lives of academics. Because the academic calendar established the starting and ending dates of each semester and accommodated holidays that broke up the semester, it impacted when instructors scheduled design activities. Further, the research events mentioned as anchor points in a few courses show that the annual academic calendar could also impact the design of the course and its assignments. But the most significant point about the academic year is that it contains the semester, which appeared to be the focal point of most instructors' design thinking.

3.1.3 Semester

The semester is the focal cycle for the majority of American colleges and universities with around 70 percent of institutions using a semester calendar (Ashford, 2003). For this reason, it is not surprising that it proved to be a salient time scale mentioned by all interview participants in the current study. In fact, the word "semester" is polysemous with several separate, though related, usages. While the Oxford English Dictionary provides just a single definition, "a period or term of six months, esp. in German and U.S. universities and colleges, the college half-year" (OED Online, 2021), this does not fully capture the way that the word was used by professors. One usage visible in the data, which aligns to the OED definition, was as a count unit or reference point linked to the calendar, similar to the way that the academic year functions. For instance, one participant mentioned a colleague who "teaches one class a semester for us," emphasizing the scheduled recurrence of the time cycle within the academic year. More common was a mention that emphasized a specified recurrence of the cycle, a definite reference marked by "this" or "next," for instance. Here are some examples:

"...this semester it's like I'm spending ten hours every Sunday working on this"

"...six teams all together this semester"

"...it's for next semester"

This usage also applied when the word itself was not used but the reference was clearly implied. For instance, when one participant alluded to a point in time, saying "that was this fall," they were again referring to a particular recurrence of the semester. In other words, it is clear that this individual referred not to the season but the conventional name of the first semester of the academic year.

But instructors did not only use the word “semester,” or its synonymous terms (“fall,” “winter”) to refer to a bounded period marked out on the academic calendar. They also used it to measure the quantity and depth of content extended over the duration of that cycle. Like in many other cases of polysemy, the distinction is subtle but real. Some examples will illustrate. Ellen Deere, discussing another W-course in the education program mentioned that students in that course did original research. “And with that one, they develop a research study, but it's in one semester, so it's obviously a much shorter research project than it would be if it were over two semesters, like some departments have. We just have the one semester.” The last sentence is the crucial one for our purpose. Here she shifted from viewing the semester as a calendar point and made it a descriptor of the limited depth of the project, correlating to the duration but not synonymous with it. The word ends up being used like a classifier, “a semester of X” being akin to a “glass of Y” or “a piece of Z.” Bruce Ivers reported a similar understanding in biology where research projects were usually extended over multiple semesters, but occasionally students needed a more compressed version: “We hook them up with a one-semester project.” Here “semester” becomes the root for a compound adjective and again becomes a container for content, a way of describing an amount.

Related to the previous two polysemous usages, again distinct, but only subtly so, is the notion of a semester as a bounded time cycle, within which the instruction takes place. Again, we have the notion of a container but not as a classifier for a mass of an abstract quantity, for instance, of learning. Instead, we see a cycle conceived of as a countable unit containing smaller nested cycles, that is as a container composed of weeks of instruction and within these, class sessions. Although each cycle is always scheduled and locked into a specific position on the calendar, that fact is not salient with this usage. Were the semester scheduled for winter instead

of fall, say, it would make only a modest difference in the design. It is easy to find examples of this usage. Here is one where Bruce Ivers describes one of the courses in the biology research track. “They're actually supposed to do two presentations. One happens just soon after the semester starts where they do a presentation in front of a small group of faculty and students where we kind of look at what they're doing and we'll ask questions and then at the end of the semester they do an oral presentation of their proposal.” While the usage here aligns with the OED definition of a specific span of time, the focus is not on the duration nor the amount of learning or research that can fill such a metaphorical container but instead a bounded time period, in which activities can be inserted and ordered. In this case the two presentations were designed to bookend the learning period. There was an early, preliminary presentation to allow professors to provide input and review the project design. Then, there was the final presentation of the finished proposal, which represented a culmination of the semester’s effort. It was the semester, as a particular academic cycle, which structured and afforded this design.

Another example shows the distinction between the semester as a bounded time period for instruction and as a period locked into the academic and non-academic year and demonstrates how these can come into conflict. Art professor Ariana Harris described how she typically taught one version of an art appreciation course in which most of the work took place during a week-long study tour of New York City. Students in the regular art appreciation course completed a museum journal assignment early in the semester that oriented them to the type of analysis expected in the discipline. The problem this posed was that in the study tour version of the course the most logical opportunity for the museum assignment came over Thanksgiving Break when the group visited multiple museums. But coming near the end of the fall semester, these museum visits could not provide the early training on which much of the course depended.

Ariana described the challenge this posed to her in designing the course. "It's like the first time you peel back the meaning of art with this journal, then you're supposed to write a paper understanding how to do it and do it again. What I've changed my mind is with that class because this is at the end. It's at the end, so… it's kind of backwards because then they write a research paper and then they do a journal on something else." The museum visit with the journal activity usually provided the foundation for the research paper. When the museum visit with the journal activity came after the research paper was already submitted, it proved an afterthought rather than a step leading towards the research paper. In other words, the sequencing of activities worked fine when thinking of a semester in the sense of a bounded time period of about 15 weeks. It did not work so well when the semester was mapped onto the fall semester calendar. The irony was that it was precisely the holiday period that afforded the enrichment of the multiple museum visits. But the semester can be defined as both a container for activities and a particular calendar period, and in this case, the two did not align.

It seems fairly obvious given that most courses are attached to a specific semester and do not extend over multiple semesters that professors design *for* the semester, rather than any other time cycle. In fact, nine out of ten participants made at least one statement when discussing their planning practices that demonstrated that this is indeed the case. Here is one mention, from Sara Olson: "Oh, I'm totally revamping the course now for the fall semester."

Planning for the semester involved seeing the semester as divisible into smaller pieces, as we have seen with the before-and-after the museum trip problem, and the example of the beginning and the end of the semester presentations. But, in fact, the semester may be conventionally divided as well. For instance, it is not uncommon for universities to require professors to submit midterm grades, which can follow a midterm exam, depending on how a

professor chooses to design the course. Such a practice divides the semester into two halves, but in my data, this division did not seem especially salient. Instead, professors spoke of the weeks that made up a semester as the salient time scale for their planning purposes.

3.1.4 Week

The week is a time cycle that appears to coincide with calendar rhythms more closely than any of the academic time cycles that we have looked at so far. This has to do with how work is arranged, an understanding of time that reaches back into antiquity. Exodus 20:5 and 6 enjoined the ancient Jewish nation to follow a weekly work rhythm. "Six days you shall labor and do all your work, but the seventh day is the Sabbath of the Lord your God. In it you shall do no work: you, nor your son, nor your daughter, nor your male servant, nor your female servant, nor your cattle, nor your stranger who is within your gates." (NKJV) Over the centuries the day of rest and the set-up of the calendar have not necessarily followed the Jewish tradition, but the seven-day weekly cycle remains a stable calendar unit and continues to shape work rhythms. Thus, the academic week is an artifact of the work week, but for professors using the term "week," the sense was often more closely attached to the division of content within a semester. Interviewees frequently reported mapping the content of the course, the stages of a major writing assignment and the submission of smaller assignments within a framework of weeks. This means that, as with "semester," "week" can be used as a container for content and as a classifier to denote an amount of content.

Some examples illustrate the point. One instructor decided not to follow the lead of a previous teacher in using a film as a teaching aid because "that takes about three weeks probably of the class period." In other words, the weeks within the semester offered containers of instructional time that could be used for different purposes, and the film filled too much of the

container for its limited instructional benefits. Likewise, another professor noted that "on the introduction, we're gonna work on that for three to four weeks." Here, likewise, a quantity of instructional time, marked by the term "weeks," was allocated to an activity, and the instructor implied that the activity merited the attention. Sometimes the weeks were associated with particular topics, as for the research methods professor who arranged the class to allow students "to participate in a quantitative research study, the quantitative week and then a qualitative study, the qualitative week." Similarly, in a social sciences class, the professor noted that "generally the topics go by week or every two weeks or something." One final example makes the point explicit. Here a professor is describing the assigned readings for her class. "They are like the cornerstone for understanding the lecture, the cornerstone for understanding the vocabulary for that specific bit of, you know, that week or that topic." In other words, in this case, "week" and "topic" had become roughly synonymous because weeks were assigned topics.

Weeks were a fruitful unit for scheduling content and experiences but also allowed the coordination of time cycles. An example comes from Craig Hoffman's one-hour lab course in chemistry. He pointed out that "it's a one-hour once a week session, and it's accompanied by a required one-credit hour four-hour lab session during the week where students actually do work in the laboratory." Many science courses match a weekly lab with theory sessions or lectures in a classroom or amphitheater several times a week. The model coordinates the two types of learning, that is, the theory and the hands-on application. But here the students who attended lectures as a single group were divided into two lab groups, meaning that in the case of Hoffman's class, "we've got… two lab sections a week to fit them all in." The weekly cycle here coordinated the two activities, lecture and lab, allowing both lab groups to sit in the same lecture class at a particular slot in the weekly schedule. Scheduling of this type is typical of university

instruction but notice that it is at the level of the weekly time scale where the actual coordination occurs for the professor and each of the students. This makes sense given that weeks have always coordinated the cycles of work and rest in most societies.

Because thinking of the semester in terms of the week is a way to break down the course content and to map it across the semester, looking at weeks offered instructors one way of balancing the writing goals of the W-course with other course content. Here it is helpful to recall the taxonomy of W-courses as defined earlier, that is, topical courses, research courses and capstone courses. For the research courses, the writing projects and the process of gathering data, analyzing and writing it up constitute the course. Subject content comes from elsewhere, either from prior coursework and research activity or from the students' individualized reading of sources. For the other two types of courses, professors need to balance the native content of the course with the writing demands that enable the course to be designated as a W-course. In these two types of courses, examining the design at the week-level gives insights on how these competing goals are balanced.

Interview participants reported several different approaches for mapping the steps of the writing process across a topical or capstone course. One approach was to alternate between writing and content tasks over the course of the semester, and one way to accomplish this was by breaking larger projects into smaller pieces that were submitted at intervals and later joined into a larger project. In this way the deadlines for the writing assignments were alternated with engagement with other content, that is, readings, lectures, and other activities. A good example comes from Sarah Olson's sociology class. She noted, "We have fourteen weeks worth of lectures for this upcoming semester." Here we can see that like the case of Pamela Sherman, mentioned earlier, weeks were containers or classifier nouns for topics, "weeks worth of." Sara

divided larger papers into smaller submissions, which she calls “deliverables.” Deliverable submissions were then scheduled at regular intervals, using weeks as units. “It's not every week they have one due. I try not to make it so that if they have a deliverable due that week I'm not also assigning a video reflection or a web activity.” So again we can see that the week level was where subject content was balanced with steps in the writing process.

Brian Sellers came to follow a similar approach with his business strategies course. Between our first and second interviews, Brian substantially revised how the course was organized. In the redesigned version, in the first half of the semester he focused on the written project while in the second half, Brian planned to emphasize concepts from the textbook. For the written project, Brian selected a target company and asked each student to analyze it as a case study project. He brought in relevant information from the textbook to inform the analysis, and he noted, “they turn it in every week, a piece of it every week.” During the first half of the semester, Brian also chose to schedule time every week to meet students to look over what they had written at each stage. The course was scheduled to meet two days a week, so for the first half of the semester, Brian designated one class session as one-on-one conferences and the other for in-class instruction with the whole group. Here is his description of the process:

> I've reserved one full day for fifteen-minute conferences and a half of another day so I have them sign up on Google docs on a sheet for a time and so 15-minute slot. It's been every week so far. It's every Monday and Tuesday and then on Wednesday-Thursday, we're in class. Right and there's attendance as well... So I'm trying this because there's a significant expectation- we don't have- you know, our department, a senior thesis writing paper, we don't have oral exams, so I have kind of equated this in their minds to a senior project.

As we can see, Brian was explaining several things here. One is that he saw the course as a capstone-type course. Another is that in this half of the semester the week operated as a key organizing cycle within which he could assign a piece of the larger paper and then give students one-on-one feedback about the step before moving on to the next step. Content from the textbook had lower priority for this period of the semester, but it was still brought into the discussion on the days that the class met together in the classroom. Here, while weeks were still used to delineate and organize the writing part of the class, the course was also roughly divided in half, with the first part emphasizing the writing more than the other course content. But the halfway point was likely also pegged to weeks to some degree, though perhaps also to the institutionally-dubbed midpoint, "midterm." In both Sara's and Brian's cases, at any rate, we can see that weeks are units that help balance writing with other course content.

Most of the topical or capstone courses in my sample had a longer writing project along with several shorter ones. Here Brian Sellers is again instructive because in his redesign he jettisoned two shorter papers in order to increase his focus on the longer case study. In other words, he shifted the balance within the course to provide more emphasis on the project paper because he felt that the major project offered a crucial experience for soon-to-be graduates, and students in recent semesters had done less than stellar work on this critical part of the course. At the same time, he mentioned regretting losing one of the smaller papers, a response paper that forced students to grapple with an ethical dilemma introduced through a video about Rockefeller. "I just didn't have time to show it. But if I do, I might do it at the end, but... having not had it this semester, ...I see there's a hole there, I need to get it in there somehow." Here we can see some of the trade-offs in balancing the scaffolding of the writing process and other course content. The readjustment took place within the semester as a larger container. Although not mentioned in this

comment, the salient time cycle for shuffling and reorganizing was typically the week, and Brian had already associated each week with other activities, such as the expanded time on the major project paper.

Education professor Ellen Deere referred to the salience of the weekly cycle for her major project in a different way, as an accountability checkpoint before the paper is due. While the paper was introduced and assigned earlier in the semester, she said, “But then I take part of a class period and I go through the rubric and talk about what my expectations are. I usually do that about a week before it's due just to reinforce so that they can ask questions, all of that.” In her class, she also encouraged students to use the week before the deadline as an accountability goal, particularly those prone to procrastinate, “I've said, well, you then make the paper due a week early so that you can deal with that pressure ahead of time.” But this practice also allowed students time to edit and proofread. “I really encourage them to have it written before the week that it's due, so that they can let it grow cold and go back and reread it so that they can read it a little bit more like an observer as opposed to their own work.” We can see that Ellen used the week-before idea as a checkpoint for scaffolding the writing process by checking in with the students to see how they are doing, but she also encouraged students to use the idea for themselves, to monitor their progress and move them towards timely completion of the project.

The biology research track also used the weekly cycle to schedule the major writing task. During the research process, students typically worked on their project with a mentoring professor. “So they'll meet weekly to go over it,” said Bruce Ivers. Once again, the weekly cycle governed a recurrent instructional pattern, although in this case focusing on mentoring.

As we can see, focusing on weeks also let instructors space out the deliverables or mentoring for major writing projects. It also allowed instructors to create writing routines,

sometimes involving recurrent extemporaneous writing tasks, another form of balancing writing and content. An example comes from Craig Hoffman whose chemistry course has an attached lab that students sign up for separately, and the writing part of the course associated with the writing-emphasis designation comes with the lab. He balanced the lab work with the writing by collecting the lab notebooks every other week. “Because they have one week experiment and then the other week in between is analysis of data because it's very extensive.” In this case, however, it is important to note that the lab meets once a week, so the cycle from one time of meeting to the next overlaps with the weekly cycle rather than being nested in it. In other words, should the lab hypothetically meet twice a week, the lab plus write-up cycle might be weekly rather than bi-weekly. In either case, the activity frequency would be pegged to the weekly cycle.

As we have seen, thinking of the semester in terms of a sequence of weeks helps instructors map course content and balance it with the writing required for the course to be tagged as writing-emphasis. In fact, a number of participants discussed mapping content to the schedule as a crucial and early planning activity, meaning that for classes where writing goals are tied with a particular body of knowledge that content coverage takes first priority. Six of the ten participants said that one of the first steps in planning a course was taking a textbook or a selection of articles and from these, mapping topics either onto the weeks or the class sessions within the semester. Paul Hunt discussed how he might do this with a physics course. “I mean, the first design decision of course, is textbook. But, yeah, a schedule, making a printed schedule that has a map of what we're going to cover when, what's a reasonable pacing, when are tests going to be.”

We can also see an explicit mention of the mapping step in the design process from Pamela Sherman, who described how she starts her design process by selecting readings and then

scheduling topics, “like generally the topics go by week or every two weeks or something.” With the topics established and scheduled, she turned her attention to the assignments and the steps in the writing process. “Then I start building in the assignments that are going to be fitting into those weeks where are we gonna have conferences, ...where is the annotated bibliography gonna be due, when is the lit review, when is the paper gonna be due, so I build in all of those things and then I start with the lectures.” In the final step here after the topics and assignments were laid out by week, Sherman began to look at specific class sessions and started to develop her plans for each class, “the lectures.” The semester was a given when she started and the class sessions were where the instruction took place, but it was at the weekly time scale where the crucial work of developing the course took place.

3.1.5 Class session

Not surprisingly, class sessions were another salient time cycle for professors interviewed. The semesters cover about four months and tucked within those bounds are fifteen or so weeks of instruction. Class sessions for a given course are scheduled at intervals within the week, but with the assumption that students will also allocate time outside of these sessions to engage in learning work. Within the week, students also attend to the time demands of other courses and prior decisions—the consequences and time demands of taking a job or becoming involved in a club or taking on family responsibilities—all obviously shaped by daily biological rhythms. Managing the complexity is a challenge, but the class sessions of an in-person class synchronize activities for participants. Likely for this reason, interviewees saw class time as “prime time.”

For instance, Ellen Deere mentioned the previous instructor’s choice to show films in class as something that she immediately changed when she took over the course.

> Now I've been impacted by movies as a lot of people have but you come away, at least in my experience, you come away with a nugget that is very small for two hours that you spent and I looked at it and felt like I didn't want to spend valuable class time, you know, a week-and-a-half cuz this is a fifty-minute period. It would take me, you know, four classes to show a movie, and I just wondered if I could justify the amount of time for what I wanted them to get out of that movie.

Here we can pick up on two things, that Ellen was concerned about efficiently managing learning time in general, but that the time allocated to the class session, the time where students met with her in person, was "valuable," and therefore particularly crucial to managing the course intelligently.

Craig Hoffman also demonstrated this view of class time in reference to the chemistry lab session. "I become irritated with students who show up with an empty lab book and want to start the experiment, okay? ...it delays things, they take a half hour to do that, and the lab takes an extra half hour to finish. It's easier just to check and make sure they have it in." Because time is at a premium during the lab, he considered it crucial for the students to have done the prep work ahead of time.

In many cases, instructors were more subtle in demonstrating the value of the class time by pointing to activities that they chose to spend class time on. For instance, Ellen Deere, who indicated that class time was "valuable," also remarked, "I'm using increasingly more in-class activities. That has grown a great deal from when I first started teaching [the course] and the things we do in class are increasingly more hands-on during class time." The implication was that she had become increasingly aware of the value of active learning, perhaps for engagement or retention, and thus had redesigned her course accordingly.

Another example of how instructors maximized the use of the class session comes from chemistry professor Craig Hoffman as he talked about a data analysis activity that he scheduled during one class session.

> There are some parameters and equations that they're given and then those parameters and the equations are used to generate the data and then they make the plots and then we'll take a look at them and then we'll evaluate those plots and see whether they agree with what the authors have said they should or not and... why do they agree, ...ones that don't agree, why don't they agree, and that sort of thing. So that's fairly typical. That's a major project that would take them probably the whole period.

Here Craig talked about a learning activity that required students to work through a series of steps to generate a particular set of figures so that students not only understood how to generate figures but how the visualization worked with the data. It was a hands-on activity that helped students internalize the logic of data visualization so that they were better prepared to process their own data. Because of the pedagogical value of the activity, Craig allocated most of a class session to it. He also described other activities that he might do during a class session:

> Other times… I plan on breaking them into groups and giving them each a different problem to work on and then they'll share their work with the class, you know. So, it just kind of depends on what is suitable for content for that section.

In other words, Craig planned the class session by weighing which activities offered significant pedagogical value. Thus, again the class session offered a timescale of the appropriate periodicity and duration for serving the planning function and helping balance competing pedagogical goals, coverage of content versus engagement with that content.

This commitment to using the class time for the most high-value activities impacted whether instructors were willing to schedule conferences during the time normally scheduled for class. As we already saw, Brian Sellers decided to do so, in part because in his redesigned business strategies course, he had decided to emphasize the case study as the most significant learning activity. This decision elevated the value of coaching students on the project. Art professor Ariana Harris, on the other hand, hesitated to use the class time for conferences but struggled to get students to come by during office hours to get the coaching that they needed to write papers of the quality she was hoping to see.

> If students don't make an appointment with me, I'm not gonna go after them. So, if they make an appointment with me, I will meet with them, and I do encourage them to meet with me. I made it obligatory for them to go to the Writing Center twice this last semester. I got some people complaining about that. But they don't want to do that, and they don't interview with me, and then they come with really bad papers at the end. So, I told them, you either go to- it's obligatory you go and make two appointments at the Writing Center, and then of course I'm going to read the paper several times and give them feedback, but some of them don't turn in anything until the end. They don't meet with me, they don't make appointments. Ah! It's like, I do not have the time to hunt students down, so if they don't look for me, and they don't meet with me, I mean, their paper's gonna pay for it.

At this point in the discussion, Ariana checked with me to see how we handled the same challenge in the English department. Here is the exchange.

> AH: I don't know how you manage to get them in your office. [Do you make it oblig-
>
> LS: [Oh, it's class time

AH: [Yeah.

LS: [It's scheduling.

AH: Oh, it's class time? Ok. So you cancel some class periods and meet with them?

LS: Because it's that important to us.

AH: Yeah, yeah. See the problem with me is I have all this content on art history plus the writing.

As we can see, Ariana was at first surprised about the practice of scheduling conferences during class time. She said, “Yeah, yeah,” softly as she considered it briefly. Then, with some regret in her voice, concluded that this was not a good option for her classes. Because the regularly-scheduled class time was prime time, even perhaps the only time, to ensure that students got sufficient coverage of the art history topics, she dismissed the possibility of scheduling writing conferences during that time. Ariana’s experience, in fact, illustrated the challenges of ensuring that students achieved both the writing and content outcomes for the course.

Pamela Sherman’s discussion of how her undergraduate experiences informed her current teaching practices provides another demonstration of how the scheduled class session was perceived. Pamela remembered appreciating undergraduate classes where the class time was balanced between lecture and discussion, reinforcing the content through engagement with ideas and with fellow learners.

Because something that had really worked for my learning–I saw all my professors really use it–was they would use discussion prompts and then let students discuss within the class, and, you know, obviously try and lead the conversation, but that was a main tool of theirs. It wasn't just lecture-based... for 45, 50 minutes. There was lecture maybe for 20 minutes, but there were discussion questions built into that lecture time, and so I'm

> wanting to make sure that I did something similar to that. Because students remember what other students say, students remember what they say, students remember what conversations took place far more than I think just something being spoken to them.

The value that Pamela was referencing connected to the pedagogical potency of the social dynamics of the classroom setting, the active engagement with the course content as stimulated by the activity of discussion, and the synchrony that made both possible.

While all the time cycles mentioned coordinated individuals and activities, collectives and practices, the class session more than any other time cycle enables the synchrony that maximizes the socially-rich learning environment of the in-person class. In other words, because the class meeting coordinates the schedules of all participants, it ideally allows all members of the group to appear in the same place at the same moment in time. It is likely this synchronization that made class time so valued for these instructors. It was the period in time where all participants in the learning enterprise came together. The blunting or loss of this benefit during the spring of 2020 when the COVID-19 pandemic pushed many institutions online created a scramble for technologies and practices that might lead to equivalent outcomes (Hofer, Nistor & Scheibenzuber, 2021), especially since researchers had already demonstrated that students prefer face-to-face learning (Kemp & Grieve, 2014). The hope was to create social presence, that is, the sense that one is engaged with another human being in a digitally-mediated environment (Richardson, Maeda, Lv & Caskerlu, 2017). Clearly, there is a continuum of presence from normal face-to-face in-person classes, to masked or distanced face-to-face interactions, to synchronous online interactions, but in each case, a scheduled class session places instructor and learners in the same space at the same time, be it physical or virtual, and

this very fact contributes to the social and emotional impact of the encounter. This reality seemed to underlie the value that these instructors placed on a class session and how they designed for it.

Synchronization not only affects the quality of the learning experience by bringing participants into a socially-rich moment but the focal value of the event is logistical planning. In a study of how family members coordinated their time, Southerton (2006) discovered the role of such focal activities, learning that weekly rhythms had periods of "rush and comparative calm," that scheduling required "coordination with the temporal regimes of other people and institutions," and, finally, were "focused around a few activities that were fixed within their daily schedules" (p. 442). The class session, then, is such a focal activity, a fixed anchor point around which all the participants organize their schedules and around which the recurrent learning activities coalesce.

Because professors usually aim to spend class time on whatever content or learning activities are deemed most consequential, and because scheduling a fixed meeting promotes synchronization, the class session becomes an organizing node in the schedule. Instructors are likely to consider the sequencing from class session to class session and the motion of activities and ideas, into and out of the class session, what topics come next or the next steps that the students are assumed to take. Some interactions may be serendipitous but depend on the expectation that the class session is a scheduled moment of co-presence. Pamela Sherman made this point when she imagined the possibility of a student coming up to ask a question after class and valued such an interaction as an affordance for students who wanted to be proactive. "Sometimes they have to say, 'Well, I think I understand the basics of the assignment, but I have a few gaps in my understanding. Maybe I should email or maybe I should talk to a peer or maybe I should, you know, use some of these resources that are available. Or talk to her after class.'" As

we can see, Pamela saw the possibility of a post-class interaction as a particular type of resource, the opportunity to ask the professor for clarification face-to-face in a way that took place efficiently at the boundaries of the class session.

But Pamela also explicitly planned for ferrying students from the shared and scaffolded classroom experience to the banks of the wilder landscape where each must metaphorically clear the briers to find the time and tackle the work alone. To accomplish this, Pamela used an active learning strategy. "Oftentimes at the end of a class if there's been a lot of reading, I might have them do… one clear point and one fuzzy point." This active learning activity envisioned and took advantage of the liminal borders of the class period.

Robin Nelson accomplished something similar in a nursing research course where she established a submission routine for the stages of the major writing project. For each draft, she used two submission links in the learning management system, one to collect a draft before the class and another where students submitted a revised draft after the in-class peer review session. By having submissions divided into a "before" class and "after" class version with a class activity in between she maximized the use of the class time, and provided a transitional activity, submitting the new draft, that moved the students forward to other activities. This approach was so salient to Robin that she had designed her course schedule to reinforce it with a column marked "apply B4 class" and another, "apply in class." The second of these captured all post-class submissions as well as in-class activities.

As mentioned earlier, much of the balancing of course content and writing process was mapped at the level of the weekly cycle. But some of this work also took place at the class session level since class sessions more minutely coordinated student learning activities within and beyond the class. Thus, it is not surprising that here was another point where instructors

balanced the writing requirements and the content commitments. Ellen Deere, for instance, spoke of class sessions as count units for content. “But we also do a whole section on [outside reading title] and so that's very definitely also separate in that part of the course. That takes about three weeks probably of the class period. And then I also do it in the section where I talk about [the religious denomination’s] education, two days of that.” In other words, here we see the balancing function of weeks taken to the next granular level, that of class sessions. Unsurprisingly, both weeks and days functioned together in affording the appropriate units for doing this sort of planning. In this case, the topic was allocated a certain number of class sessions because of its significance in terms of course goals.

Some participants mapped course content by week, as we have already seen. Others appeared to go directly to the class session level. Biology professor Bruce Ivers was one example. In discussing an upper division course, he said, “That one I don't even have a textbook. ...we read literature that takes the principles that we learn and applies them now to real life situations and how does this actually work out and we are in there critiquing other people's reading and their writing and their science and stuff like that, looking at how politics influences science, how society influences science.” To schedule the topics and readings, he worked at the level of class sessions, noting, “I usually start out with a calendar to see how many class periods I have and say, so how can we divide this up, you know?” Craig Hoffman made a similar comment about how he designed his chemistry courses.

> I take the textbook, I look at how many topics I need to cover, basically, plus or minus a little, and look at how many lecture periods we have, how many exams we have, and I basically go through and count how many pages there are and br- and see how many pages there are for the semester and then how many days I have, and try to break it out

> into even number of pages per day. For most of the classes that I teach, the content is already there, I don't choose what I'm gonna talk about, you know.

For Craig, spreading the course content evenly over the semester was best done by looking directly at available class sessions and dividing up the content into these boxes. It is possible that mapping content in this way is common in the sciences. Assuming that textbooks tend to play a key role in delineating subject matter in these fields, it might make sense to spread the content evenly across all the class sessions of the semester rather than thinking of topic areas or clusters of skills as might be more common in some other disciplines. But this is just speculation.

To summarize where we are so far: class sessions were nodes that brought together participants and synchronized their engagement, but they also served as containers for course content in a similar way to what weeks did. The class session also served as a useful unit for scheduling high value recurrent activities. An example once again comes from Pamela Sherman who asked students to report on current news events and to apply the strategic thinking that the course taught. “So they're… in charge of preparing a daily news presentation, one student per day.” Here because the class session is a time cycle that recurs frequently, there are a number of time slots available over the course of the semester, and this allowed Pamela to match each student with one of the slots. It is not uncommon for professors to assign student presentations in this way, and it is easy to say that the highly-recurrent class session is the obvious choice for this type of mapping. But it is also likely that professors value the repetition of the activity, whether for the presenters or the listeners, to reinforce ways of thinking about the content over the semester. In this case, the class session also comes closer to approximating an imagined cycle from outside academic time, the daily news cycle. Even as the release of news becomes more frequent, the idea of a daily recurrence likely persists to some extent and attaches to the class

sessions. Even though Pamela's class sessions recurred every other day, they were still frequent enough to capture the immediacy of the daily news concept and offer an ongoing resource for students that was as close to current as possible.

3.2 Cycles shaped by design and practice

As we have seen, for course and assignment design, instructors were attuned to the conventional cycles of the academic calendar—the curricular span, the academic year, the semester, the weeks of the semester, and the class sessions within the week. But, in fact, instructors may also initiate and manage some of the rhythms that ripple over the academic timescape. For instance, each writing assignment has a certain duration, a set period of time spanning the time between when it is assigned until it is collected. Assignments vary in diverse ways: length, purpose, approach, genre, weight as part of the grade, and more. For this reason, different assignments have different periods and frequencies. Further, these cycles involve some malleability since, for instance, the allotted time can change when an instructor extends the deadline for some reason. Just the same, the rhythms that emerge at the course level–such as assignment cycles–jostle and ripple through the schedules of instructors and students, becoming part of the timescape.

To apply the concept of the time cycle to assignments implies the notion of recurrence, and recurrence applies in two ways. First, assignments recur for professors who teach a given course over multiple semesters. Here the assignment exists as an abstraction for the professor, not just an assignment genre but a recurrent instance of such a genre as rooted in the professor's own particular teaching practices, bearing a particular set of hoped-for outcomes that remain largely stable from semester to semester. The second type of recurrence applies to both professor and student, and this is where an assignment of a type recurs within a semester. To a

degree, the dynamic can even apply where assignments vary but features of them—the professor's particular expectations and preferences, for instance—are caught by the students and reapplied in later assignments. Given that recurrence applies in both these ways, the idea of a time cycle, not just a span of time, can apply to the assignment within the course.

For instructors who teach research-oriented courses, the assignment cycle may take much of the semester. Whether the final document is a proposal, a literature review, or a research report, in these classes, the project gets underway near the beginning of the semester and is likely to be collected in the last few weeks. Some instructors interviewed broke up the longer paper into shorter cycles, each with a "deliverable," to use the term that Sara Olson adopted. For topical courses and capstone courses, that is, those courses with content objectives outside of writing or research, the assignment cycle for a paper typically occupied only a portion of the semester, thus functioning as a smaller embedded cycle. But in either case, the salience of the cycle as a cycle would primarily apply to the instructor's experience since for many students the experience will be a one-off. The instructor's repeated experience with the assignment allows him or her to design interventions for students who lack that prior experience, interventions that draw on the experiences of previous cohorts of students.

Pamela Sherman commented on one such case. Between the first and second time that she taught the course discussed in the interview, she decided to require her students to meet with her outside of class "maybe week four or so of the semester" to verify that their research topic would result in a viable paper. She explained that "otherwise it might be week 12 before they realize that question won't be working for a paper and then they've lost so much time and they're panicking and they're, you know, very overwhelmed, and so I think the sooner I can help them in that process, the better." The semester was divided mentally into weeks, and the research paper

was spread (largely) over the semester. So in this case week 12 of the semester was a benchmark within both cycles, the semester (80% past) and the assignment cycle (maybe 85% past), but for either way of viewing the situation, it would be late in the process for making a substantial change.[7] It was Pamela's previous experiences with this time cycle–the assignment cycle–that taught her to intervene for the students who were experiencing it for the first time, and for that reason, might have problems appropriately estimating how to allocate their time.

When an assignment cycle partially recurred within a semester or when shorter assignments were assumed to inform a longer or more major assignment, instructors hoped to see a transfer of learning from one iteration to the next. Here again Pamela Sherman's comments serve as a good example:

> Like their first writing assignments are awful. Let me just be honest with you, Laurie, like it's painful to read. I feel like, well, they just didn't see even the obvious things, you know. Or maybe they didn't understand what implications were, or maybe they tried to touch on it so superficially because they thought that they needed to talk about everything that they really didn't discuss anything in depth. There could be a number of issues and so that first one is- It's hard to read, but the progress that they make if they actually pay attention to the feedback that they get is really surprising.

Each round, or cycle of analogous writing assignments, was assumed to pay off in better outcomes in the next round.

In fact, few instances in the data specifically alluded to designing for or attending to these learning opportunities, but it does seem like it could be a design input in some cases. Indeed, this was the case for Pamela in that she had decided to reach across the boundaries of a single course

[7] This example also reinforces the point made earlier, that weeks are salient units for balancing content within the semester.

to mentor students developing an area of expertise, something which is more frequently done at the graduate level.

> Like this semester, I had my students writing lit reviews, and I asked them specifically, how do you see yourself building that into a larger paper and I am completely fine with my students in this 200-level comparative politics class taking a paper, a lit review, and then applying it to my Middle Eastern class next semester, build into a larger paper and make it something that is going to be polished and well-done and potentially has the prospect of being published.

While the focus here is on continuing with a topic and deepening one's knowledge of and facility with that topic, there is also the implication that it is the recurrence of analogous writing assignments that is affording this learning opportunity for students.

Assignments are not the only course activities that generate a cycle that can serve as a design input. Another of what we might call *project cycles* is the grading cycle. While instructors deliberately map out the writing process for a major paper–the assignment cycle–they are probably less likely to plan for the length of time it will take to grade a set of papers. Nevertheless, participants did speak of the grading cycle and its demands on their time, the ways that the onslaught of grading from a particular assignment perturbed the rhythms of personal timescapes and clashed with competing demands on their time from the personal to the professional. For instance, Ellen Deere discussed the time-demanding nature of working through a grading cycle for a major writing assignment, "It takes a lot of time. If you're grading, you know, five-page papers and you have twenty-five in the class, it takes a while." For Ariana Harris, the accumulated grading load of the major project became significant enough to reach out to the administration for help.

> Basically, I did the calculation because currently as it is a dean could ask a professor to teach a hundred students, and I did the math: if you were to read… ten pages times 100 three times, it's close to like 2000 pages, and then- anyway, so I did the ridiculous calculation of that, what that would mean and I said, this is unsustainable. So I said, let's be a little bit more realistic and at least say 50, ‘cuz I've noticed that across the board nobody teaches more than 50 students per semester for writing, and I was at 60 something or 59 or 60 and I've been burning out in the last few years on that.

For Ariana, the grading load became a design input. As she was thinking about how to adjust the course requirements to make the grading sustainable, she attended a professional conference. “I just got ideas. I took notes... The other professors gave me ideas on how to make it doable so that I'm not feeling burned out. So they told me to maybe not do ten-page papers and instead do smaller ones.”

Ariana was not the only person who made design decisions because of the grading burden. When Brian Sellers was working on his doctorate and teaching, time was a significant factor in his thinking. “I've taught this and other classes throughout the time that I did my dissertation, and my time was very committed. And so the scaffolding, as you mentioned, and walking through it came essentially from doing those three writing assignments and assessing them and then getting another one out there; not having them redo that assignment.” To make the assessment more efficient and objective, Brian adopted a rubric from the English department chair, assuming that students would already be familiar with the basic layout.

> But I also had a selfish reason, and that is that I wanted to be able to, to be able to read and, and evaluate the writing. And prior to implementing this, I had a difficult time evaluating just the writing in general. I didn't have a real foundation for the assessment I

> was giving. It was just a seat of the pants subjective assessment, and- so this provided more structure, allowed me to be able to assess the writing in a more objective way.

In other words, by adopting the English department rubric, Brian made the grading cycle more efficient and felt that he had greater control over his time. The effect of the design decision, the decision to use a particular rubric, had consequences in terms of student feedback, but also in terms of Brian's personal timescape, leaving him more time for his graduate studies and other work.

A final type of project cycle mentioned in the data is probably more salient in some disciplines than others, and that is the time that it takes to retool a course when a new textbook is adopted. Bruce Ivers described this process in terms that show that for him this was indeed a cycle:

> It's like a huge process. It usually takes about three years, right? Three times of doing it to get it to where, now, let's start really being creative. You know? It takes a while, work through it, work through it, work through it, okay, now this is good. Now I can start being creative. Now I can start going back and looking at "So, how can we do this better? How can we do that better?"

The first year within the cycle required remapping the topics into the schedule and noting differences in terms of the presentation. By the time Bruce had taught the book for a couple of years, he felt comfortable innovating. What we don't know is how many years the department tended to use the same textbook before switching to a new text or a new edition. The point here is that Bruce described the process as something that he had experienced before and expected to experience again–as something typical. Further, we can see that the cycle has consequences for course design and redesign in each of its phases—the first year when the text is new, a year when

it is familiar, and a year when the professor can move beyond its confines in certain ways. A final point to note is that this was a project cycle in the sense that it was not imposed through institutional planning or accreditation requirements, but each phase coincided with and thus had the same *period* as the academic year.

Assignment cycles, grading cycles, and textbook adoption cycles are surely not the only types of project cycles that professors might experience, but they do serve as examples of how recurrent activities of various duration become salient enough to shape design decisions. In each case mentioned, the duration associated with the activity is a feature that is not merely incidental. The reality is that each of these recurrent activities must be folded into one's schedule, each exacts an opportunity cost, and each becomes associated with a temporal dimension that is perceived as salient in some degree.

3.3 Intersecting, overloading, clashing

Timescales shape design thinking because of the affordances and constraints that they impose on the logic of the design. But the timescape is composed of complex rhythms and pulses. Some time cycles nest in apparently orderly ways like the academic years in a curricular cycle, semesters within academic years, weeks within semesters and so on. But the timing of similar cycles may not always align to allow synchronization between participants, and the time cycles from outside the academic world also impact participants within the system, interacting in ways that have consequences for individuals and their design work.

An obvious challenge for everyone is the sense that different time cycles and time scales that coordinate our activities are overlaid and frequently clashing. Further, the cycles that activities impose on us by the logic of their enactment often misalign with our predictions for durations. Having something take longer than expected is a daily occurrence for most of us, and

we are familiar with the concomitant consequences for other planned activities in other intersecting cycles. As our activities play out, they may stitch together provisional adjustments between time layers or, perhaps just as frequently, snarl the threads of scheduling. But even without the input of personally-generated time scales, whether project time or the rhythm of recurrent daily activities that are at least partially predictable and under our agency, time cycles from different systems are simultaneously in operation, and they do not always align. Often there is a mismatch of time cycles.

For instance, intersecting cycles can generate conflicts within a course if an instructor doesn't pay attention to how activities are sequenced to allow students time to complete small, recurrent activities while they are also working on longer writing projects, that is, for project time. With experience, instructors learn to pay attention to how their design decisions generate their own set of time cycles and how these operate within the semester. For instance, Sara Olson described alternating activities that engaged core content with steps in the writing process. "I try not to make it so that if they have a deliverable due that week I'm not also assigning, a video reflection or a web activity." Part of the design process for Sara involved noticing how activities recurring on short cycles intersected with projects whose cycles arced over larger periods.

But many conflicts also arise when academic time cycles intersect with other time cycles. To take one instance, academic time cycles are designed to accommodate significant holidays and festivals, but frequently the resulting calendar creates inconveniences for faculty or students. The fact that most campuses in the United States have a Thanksgiving break followed by a winter break in December generates inefficiencies for the momentum of instruction especially since travel challenges can lead to absenteeism and further ripple effects. I have already mentioned the case of the art history instructor who found that the holiday schedule offered both

affordances and constraints for sequencing of instruction. The holiday break allowed for a museum trip to New York City, a richer experience than a one-day visit to a local museum. However, having the trip occur near the end of the semester meant that the instructor felt compelled to simulate a museum visit with PowerPoint in the classroom so that students could start analyzing and writing about art from early in the semester. In the version of the course without the long trip, the students instead visited the local museum earlier in the semester. Placing the New York City trip earlier in the semester would offer a similar pedagogical advantage, but with no holiday break available, the trip would remove students from other classes and commitments and generate even more profound clashes.

There were two other situations in the data that showed a mismatch of time cycles that impacted design decisions, and both came from biologist Bruce Ivers. Bruce described the ongoing challenge of matching students with research projects that could be completed within the time frame of the program, an issue that is particularly salient at the proposal stage. “So that's one of the struggles is just help them to narrow it down to something that's specific, you know, falsifiable, that we can actually do in their time frame.” The typical research project would be spread over two semesters. This means defining the research project with the time parameters as central. Bruce discussed what might happen if the time frame were compressed further, if students decided to transfer into the research track in the middle of sophomore or beginning of junior year.

> That rarely happens. When it does happen, we hook them up with a one-semester project, like the wildflower project… that you do in one semester… if they haven't already done Biological Analysis, they'd probably do Biological Analysis and Proposal Writing at the same time. They'd probably do it concurrently. Sometimes we even have– rare rare rare,

> right? Like I've been here nine years, I think one or two times I'll have someone that's actually doing their proposal writing while they're doing their research. So, we try to be flexible with that. And we can even… have a few students who we spin this to make it work for them for doing research off-campus, where they intern someplace for the summer, during an internship working in a lab someplace. We even spin it sometimes to make it work with that. So, we're pretty flexible.

The curricular sequence was designed to take the students sequentially through a series of steps conventionally spread over five semesters. Semesters three and four of that sequence normally fell during a student's junior year, and were to be dedicated to performing the proposed research, which then allowed them time in the senior year to write up the research and present it. Scientists typically perform research within a timeline, potentially defined by the terms of a grant. Here the timeline was dictated by the curricular sequencing and the timescales of academic years and semesters, which imposed especially tight constraints on what could be done, especially considering that the research needed to be legitimate, but the pedagogical scaffolding also needed to be foregrounded.

The complications did not end with the clashing demands of the research cycle and the academic time cycles. For some projects, biological time also came into play. One example was the wildflower project that Bruce mentioned. This project involved collecting data over a period of some years, using an ever-shifting set of student researchers. But the study itself must be aligned with the seasonal fluctuations, the life cycles of the plants themselves and particularly their periods of flowering. These cycles, too, have the potential to create mismatches–between academic time, the research cycle and the seasonally-linked biological cycles.

In the cases mentioned so far, the misalignment between time cycles lay outside of the instructor's control. But probably one of the most stress-inducing of the intersecting and clashing time cycles for instructors themselves are those assumed to be at least partially under their own control, that is, those related to non-work commitments, or in other words, the life-work balance. For instance, family commitments are likely to be a major input. Interestingly, only one of my participants mentioned this explicitly, though interruptions from family members in two of the interviews, most of which were scheduled in faculty offices during scheduled work time, indicated that the needs and routines of family members almost certainly had an impact. In fact, only one participant had young children. The remaining participants had children who were at least high school age or had no children. My assumption is that family dynamics involving spouses, children and aging parents all matter and discovering how all of these might interact would be an interesting research project of its own.

The complexities of managing intersecting and interacting time scales between the personal and the professional does have an impact on design decisions, and several participants referred to different categories of these, as well as the challenge in general. For instance, several participants mentioned the impact of their own graduate study on course planning. We saw this earlier when Brian Sellers chose a rubric from the English department to simplify grading and lessen its time demands during a period when he was both teaching and working on an advanced degree. Pamela Sherman also reported the impact of her graduate study on her own time management but noted that this gave her added awareness of how her design decisions feed similar challenges faced by her students.

> There is the balance that you have to maintain between student capability, you know, with the other classes that they juggle, and, you know, not wanting to be outside the

> range of what a typical class workload would look like but then also what a professor can successfully grade and, you know, get through. And so I've been thinking more and more about what that balance looks like, especially being in a PhD program now and thinking also just about, you know, even if I weren't in a PhD program, I would want to have life outside of work and so with writing there's just so much grading to be doing and that often falls to the evenings and weekends when you're not doing other things that are more pressing. And so, I have been thinking a lot about that balance of, you know, I want to have quality of life outside of my classes as well, and I want that for my students too.

As we can see, in both cases mentioned here, the concern was the overloading from the two activities—teaching and graduate study. But it is likely that at times slight differences in academic calendars between institutions also generated inconveniences for these individuals. A more notable point here is that not only was Pamela Sherman likely to redesign her class, at least slightly, to accommodate the demands that graduate study placed on her time, but that she had also become more aware of the ways that time cycles clash and overlay for her students, and hence, was motivated to redesign the course in response to this awareness, as we can see in her next comments:

> So how do I successfully get them the exposure they need while also maintaining that balance? So, if that looks like more in-class writing assignments or if that looks like, you know, we're talking through that process more in class so maybe even if they're not doing more assignments, they're having discussions about writing more frequently. So those are things that have been on my mind.

As alluded to in the discussion of the class session as prime time, synchronizing the schedules of students with the instructor is a crucial task for the instructional system. It is a node

where the time cycles of all the participants must intersect. Pamela's comments here show an expanded awareness of that intersection, of how the design decisions that she made entered the time cycles that shaped the lives of individual students, and of how her actions could help them to manage their commitments or, conversely, make it more difficult for them to do so.

Traditional students, such as those Pamela is largely talking about, certainly must coordinate a variety of activities timed with different periods and frequencies. Non-traditional students engage in a range of activities that to a large extent operate outside of the campus timescape. In other words, these students spend more hours at a job, usually off-campus, are more likely to have family commitments, and are less likely to be studying full-time, which inevitably means less of their timescape is impacted by academic time cycles (Forbus, Newbold, & Mehta, 2011; Woods & Frogge, 2017). When enough students fall into this category, the clashes between time cycles pose special challenges. This was the case for Sara Olson. Her online courses drew students from several schools and departments, which posed its own set of challenges, but her largest group of students, nursing students, also included quite a few non-traditional students who were already working in clinical settings. Traditional nursing students have periods blocked out in their schedules for clinical hours, but these are scheduled with an awareness of the other pieces of their course schedule for the semester. This is not the case for nurses who balance work and school. Sara's course was asynchronous but in order to establish presence and community, she tried to schedule one or two synchronous sessions during the semester. But this ended up being extremely difficult, as she noted.

> Yeah, I'm thinking- I've gotta talk to people in nursing to see if they would be interested in us doing synchronous sessions. Because in the beginning, it wasn't feasible because there's only one online class, and nursing wanted it so that their students could take it

> because, you know, nursing students have clinical hours and things to do, and so they wanted something that wasn't synchronous… that was the point of the online class instead of doing the face-to-face one.

In her ideal model of the course, she would have a couple of synchronous sessions each semester: one in the first week to introduce the students to the course, and another about halfway through the semester to kick off the research project. But given that many students couldn't make it to a synchronous session, she sometimes ended up having to rely on pre-recorded lectures.

> Even when I do two synchronous sections each semester… like I usually have… about a quarter of my students [say] that they can't make it because they have to work… It would be hard to get everybody to be at the same time in a synchronous session. However, if we had five sections and each section their synchronous section met at a different time, like, you know, Tuesdays at 8 AM, you know, Wednesdays at 3 PM, if you had variety in that way, perhaps we could do synchronous sessions but right now what we rely on is pre-recorded lectures.

With a diverse set of students and a mix of traditional and non-traditional students, the school had adopted a course model that gave up on the goal of synchronization, opting instead to give students control over when to access course content. Synchronous sections have desirable features appreciated by both students and faculty but, as in this case, conflicting time cycles can make it difficult to offer them.

So far, I have only talked about how time cycles might clash, or, in other words, how one time cycle might generate constraints in another. As a matter of fact, intersecting time cycles can also offer affordances. There are a couple of examples in the data. For one we go back to Pamela

Sherman's daily news assignment. As we have already noted, the news cycle and the cycle of class sessions were not in perfect alignment, and in fact, the news cycle moved at a faster tempo. This meant that there are always stories in the news for students to select. The likelihood that one of these stories would relate to the topic of the course was likely. The misalignment between the two cycles was to the students' benefit in this case.

The other example of beneficial alignment between cycles was more unique. Taking the assumption that a daily routine of scripture reading fosters a healthy spiritual life, nursing professor Robin Nelson offered students in her classes an incentive to develop this habit. "If they choose to search the Scriptures five days a week for the rest of the semester, they can get out of taking the final exam. They just have to answer one question: what did they read and how meaningful was it to them, and how will they incorporate that into their future practice." The decision to include this optional activity in her course came out of Robin's own values and faith commitments, though it certainly aligns with the university's commitment to integrating faith and learning. The point here is that Robin drew on an imagined daily routine and folded it into the semester cycle. The knowledge that every individual can and usually does incorporate certain valued activities into their daily routine made it possible for Robin to bring together course goals, which include the incorporation of biblical values, and a particular assignment that drew on the imagined daily routine.

Seeing how time cycles nested within the academic calendar intersect or clash with other timescales and time cycles demonstrates the complexity of the timescape within which instructors find themselves. Explicitly attending to time cycles helps us to see the ways in which these impact design practices and shape design decisions. Each cycle offers the possibility of recurrence while also being unique. As the curricular cycle demonstrates, cyclical time is also

mapped onto linear time. Cycles may recur but time moves forward, and both instructors and students change in their trajectory of becoming. This is the point that we turn to in the next chapter.

CHAPTER 4

BRINGING LIVED EXPERIENCE INTO DESIGN

When chemistry professor Craig Hoffman reflected on what influenced his teaching practices, he recalled his undergraduate education as formative, with professors who modeled strong teaching skills, particularly in their ability to break courses "down into pieces that were easy to manage." Craig's emphasis on following a step-by-step process of inculcating professionalism in science likely owed a debt to those influences. It could also have been informed by his extensive teaching experience, including 17 years of teaching at two previous institutions. Craig also participated in training offered by the writing committee at his current institution, read several books on teaching and, at the time of our interview, had just watched a Great Courses series on learning. "That was superb," he said. "It's excellent, and I'm actually going to use some of the things in there in my teaching."

As Craig helped students master the expectations of writing in science, he likely also drew on his writing experiences in graduate school and his writing of sample experiments for a scientific company. In the first few years of teaching a writing-emphasis course, Craig found a textbook that was a particularly valuable tool in laying out the expectations for writing in chemistry. The skyrocketing enrollment of the W-course in the past ten years, which made it ever more time-consuming to mentor students through the writing process, also impacted how he conceptualized and taught the course. A final resource was Craig's wife, an early childhood educator whose literacy strategies with kindergarteners offered him an analogy for thinking of teaching writing, even at the college level, as a developmental process.

As we can see from Craig's case, a variety of influences play a role for instructors as they imagine a course and design the assignments for that course. To design a course, instructors draw

on disciplinary expertise and a variety of lived experiences as they develop their pedagogical beliefs and practices. All of these inputs become embodied history, the traces and interlinkages of memory that allow the individual to draw on the past while designing the future. In the pedagogical exchange, that intervention seeks primarily to impact the students and secondarily perhaps to smooth the path for the instructor. The instructor imagines the students in terms of their future selves and designs the pedagogical intervention, the writing assignment, to facilitate that vision.

In the last chapter, we looked at how design involves interventions that are shaped by the recurrent cycles of the academic calendar. To put it another way, the previous chapter focused on the cyclical nature of time. Here we focus on an intervention in linear time. The nexus of design is the fulcrum balancing the influences of the past and the visualization of the future. Each assignment can be seen as a constructive intervention that catalyzes the student's process of becoming, which is a linear, forward-moving process. In other words, a writing assignment may be seen as a nexus of academic socialization, in which, with the professor as a guide, the student is brought into peripheral participation within the community, handling some of its objects, dabbling in some of its thinking, and through the assignment, invited to a higher level of engagement. As course designer, the professor acts with some level of agency in this exchange, assembling a particular set of tools and texts, activities and alignments. The professor is an actor with a history of engagement, no longer a novice but still a learner of institutional and disciplinary ways and an observer of their own practices, always collecting data for better pedagogical interventions, all of which point forward in time.

Three focal truths underlie the linear understanding of time. First, time becomes visible within a dynamic system where everything changes, the semiotic as well as the material, the

cultural world as well as the natural world. The designer is part of this system, acting in time and changing in time, but also, of course, changing the world itself by his or her actions. Second, the designer and the designed–courses and assignments–share the dynamism of the system, themselves taking part in a continuous process of becoming, a process that is aspirational as well as developmental. The instructor is always aiming to become a better instructor with a better course populated with more effective writing assignments, pointing towards the hope of improved student outcomes. A better instructor, a better course, and more effective assignments, therefore, are defined in terms of service to students who are viewed not as they themselves are as they sit in the classroom, but as they may someday be. Such an imagined future is the raison d'etre of the academic enterprise.

The third truth to mention at this point is that the designers themselves bear time forward in their bodies, that is, time is embodied. As discussed earlier, the concept that every human being with properly functioning memory bears the traces of previous moments has been captured by the Bourdieu's (1977) concept of *habitus* and Scollon & Scollon's (2004, 2005) *historical body*. It is the accumulation of these moments that constitutes the expertise that the designer brings into the moment of design or, more often, redesign. Not only do we span time ontologically by having a material presence in a body that spans multiple time cycles, but we engage and change the features of our world through our decision-making processes. Our interventions and experiences become part of memory. Moving forward into each new moment, memory operates as a reservoir of knowledge and know-how, sometimes consciously accessible, sometimes merely a repertoire of habits and dispositions.

This chapter will show how these three truths play out in the practices of professors at Sam York University. But first, we will explore what participants reported about the exigence for

writing assignments and the pedagogical goals associated with them. This defines the nexus of design, a moment of acting in the present oriented towards the future, drawing on the resources of the past. The remainder of the chapter focuses on the influences in time, imagined futures and historical body, that serve as inputs in the nexus of design. I conclude with a few comments on how influences are balanced and weighted in the nexus of design.

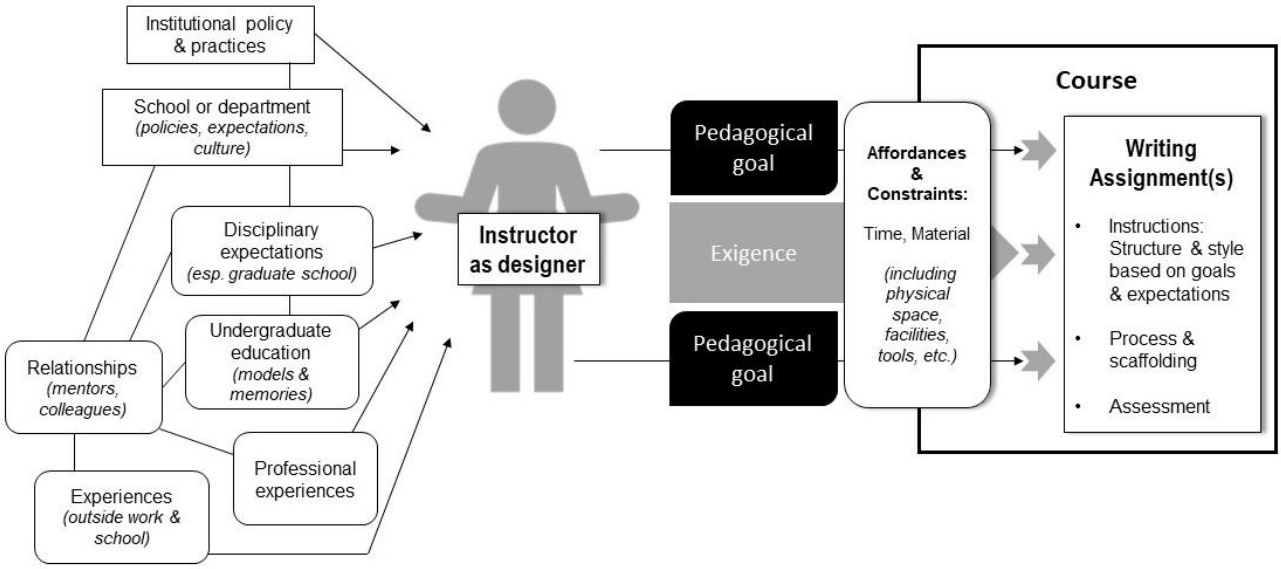
4.1 What drives design: pedagogical goals

The design process is forward-looking. In the design process, certain outcomes emerge as desirable, whether one is designing a product or an experience. The designer imagines the users engaging with and benefitting from the proposed design. In other words, design thinking generates goals that the design aims to fulfill. Pedagogical goals are perhaps less usual in that these entail both short-term and long-term outcomes. Pedagogical goals can emerge within the instructor's own design process, or they may represent the outcome of earlier design processes within a school or department, the institution, accrediting or certifying bodies, professional organizations and so on. Even when they emerge within the instructor's own design process, pedagogical goals often involve typical values and expectations shared within a discipline, a cluster of disciplines, or academia in general. That is, physics professors and education professors, nursing professors and political science professors may indeed hope to foster similar broad habits and capacities in their students. Instructors often consider their pedagogical goals early in the design process, whether they are defined anew or carried over from previous practice, the instructor's own or from others. Even if we cannot disentangle their complex origin, pedagogical goals are the most proximate driver for the design of writing assignments, so for this reason, it is worth spending time examining the pedagogical goals that are common for writing assignments.

In fact, quite often instructors inherit courses with at least some of the pedagogical goals already determined. However, over the lifespan of a course, the instructor is likely to revise these goals, shift how goals are weighted, bring in new goals, and drop less salient goals. Some of the pedagogical goals will call into action the writing assignments that give the course its W-designation. Figure 4.1 illustrates the design process as the nexus of design, that is, as the agentic work of a single instructor. It is important to note that by doing so, we foreground a particular nexus of practice (Scollon, 2001) but necessarily oversimplify the ecological nature of the system. Nevertheless, zeroing in on an individual designer allows us to better see features of the overall system.

Figure 4.1

The nexus of design



As already mentioned, *pedagogical goals* are what the instructor hopes for in terms of outcomes for students, that is, takeaways, skills or threshold concepts. In terms of time, pedagogical goals are imagined prior to their implementation. They are designed for, but they have outcomes generated by the instructional process, constrained or enhanced by what the students themselves bring to the process. Pedagogical goals that serve as the impetus for choosing or devising an assignment may also be supplemented by other, bonus pedagogical goals. Although these did not directly motivate the assignment, they are hoped-for outcomes that emerge along with a certain type of assignment. A research report in science, for instance, can have as its impetus the need to communicate research and thus a primary pedagogical goal might be for students to learn to effectively report data in figures and tables but include as a secondary outcome to see students improve their sentence structure. The latter goal is valued by disciplinary professionals but is insufficient to motivate the inclusion of the writing assignment.

The primary goal for including a particular assignment could be seen as the exigence for the design, as we can see in Figure 4.1, but this can be supplemented by other goals. In fact, a matrix of experiences and influences converge as the designer thinks of the course and selects its core goals in the nexus of design. In other words, the design antecedents converge *for* the instructor and *in* the instructor, whose situated practices and embodied experiences qualify them as the designer for the course but also predispose them to approve or select certain pedagogical goals.

The system, complex in its linkages, in fact, brings together strands drawn not just through the history of the individual, but also discipline, the institution, and the department or school. To glimpse some of these strands is a goal of this study. However, it is worthwhile to start by looking at the most proximate inputs for the design, that is, the pedagogical goals that

have shaped the design of the writing assignment by generating expectations for the assignment, calling for particular rhetorical and structuring moves, guiding the instructional process and leading to specific assessment decisions. Since the survey directly invited instructors to identify their pedagogical goals for writing assignments, I will start with those findings, and then show how interview data and review of supporting documents fleshed out or showed divergences from the survey findings.

4.1.1 Survey findings

In the survey, participants were offered a list of possible pedagogical goals adapted from Nesi & Gardner's (2012) study, which identified thirteen genre families, each associated with one of five broad "social functions." These social functions define the purpose of writing within that genre family from the perspective of what an instructor hopes students will achieve, or in other words, their pedagogical goals. Table 4.1 gives a good overview of these social functions and the associated genres within the genre family.

Table 4.1

Social Functions as Defining Genre Families, from Nesi & Gardner (2012)

Social functions	Genre family	Sample genre	Elaboration
Developing powers of informed and independent reasoning	Essay Critique	Argument paper Book review	Construct and defend a claim or argument Review and assess quality, relevance, significance
Developing research skills	Literature survey Methodology recount Research report	Literature review Lab report Senior thesis	Show familiarity with a body of research on a topic Delineate process and record procedures Demonstrate ability to perform independent research
Demonstrating knowledge and understanding	Explanation Exercise	Description of a phenomena (e.g. exam) Short answer (e.g. exam or quiz)	Demonstrate, describe, account for significance Provide practice with key concepts
Preparing for professional practice	Case study Design specification Proposal Problem question	Case study report Product design Research proposal Legal brief	Analyze site or instance in professional setting Create producible design or product Build persuasive case for future project Examine and respond to professional problem
Writing for oneself and others	Narrative recount Empathy writing	Accident report Information leaflet	Trace causes and events as factual or fictional account Reach out to non-academic audience

Note: Labels and descriptions of social functions are borrowed directly; sample genre and elaboration are adapted. Table is loosely ranked by frequency of genre family but genre families with similar social functions are grouped together.

I adapted Nesi & Gardner's list of social functions for two survey questions, one on goals for major writing assignments and another eliciting goals for minor or extemporaneous

assignments. Table 4.2 reports on the results for the first of these two questions, that is goals for the major writing assignment. Participants most frequently identified the goal of giving students practice in research methodologies used by their discipline or field. 75% of the respondents reported this as one of their goals for that assignment.[8] Not surprisingly, it was also important to instructors to use the major paper to foster disciplinary thinking and to try out genres at least somewhat akin to those used in professional settings associated with the field. The survey does not tell us whether these goals stood alone as the exigence for a given assignment or whether they could converge in a major project that aimed to fulfill more than one of these goals. The fact that goals could converge in major projects was borne out by interview data, but in fact, it is hard to imagine a research project that does not also foster disciplinary thinking.

Table 4.2

Goals for Major Writing Assignments as Reported in the Survey

Rank	Goal as worded on the survey	N	%
1	To give students the opportunity to practice research methodologies as valued in the field or profession	15	75
2	To foster disciplinary thinking and approaches to argumentation useful in upper division and graduate work in your field	11	55
2	To give students the opportunity to create texts similar to those used in future workplace settings in your field	11	55
3	To give students an opportunity to apply terms and concepts and to consolidate ideas from different topics or chapters within the course, or across courses within the curriculum	8	40
4	To deepen understanding of and engagement with assigned readings	6	30
4	To give students an opportunity to reflect on their own experiences and feelings related to the course or to their lives outside the course	6	30
5	To help students make explicit connections between course content and personal lives and worldviews.	5	25
5	To apply course content, concepts or methodologies to benefit community organizations or meet community needs	5	25
6	To give students the opportunity to express or develop their creative abilities	4	20

[8] Because participants were invited to select as many as applied, percentages do not add up to 100%. Rather percentages indicate the percentage of participants who selected the item as one of their goals for the assignment.

Another goal that could overlap with others, applying terms and concepts through writing, was selected by almost half of the participants. Expressive and creative outcomes appeared as the least valued goal, aligning with Melzer's (2014) findings from a study of writing assignments collected from a corpus of syllabi collected online. He found that only 3% of the sample syllabi assigned what he called “expressive” writing and less than 1% “poetic” or artistic writing. In the current study, survey participants were encouraged to select multiple items, so it is possible that the 20% of the participants that included expressive or creative goals see this as a bonus rather than a primary goal for an assignment. From the survey, it seems evident that instructors primarily used major writing assignments as an opportunity to reinforce disciplinary thinking through expository prose or research-based projects.

Not surprisingly, for the extemporaneous or minor writing assignments, the rankings differ somewhat from the goals driving major assignments, as can be seen in Table 4.3.

Table 4.3

Goals for Minor or Extemporaneous Writing Assignments as Reported in the Survey

Rank	Goal as worded on the survey	N	%
1	To foster disciplinary thinking and approaches to argumentation useful in upper division and graduate work in your field	13	65
1	To help students make explicit connections between course content and personal lives and worldviews.	13	65
2	To deepen understanding of and engagement with assigned readings	12	60
3	To give students an opportunity to reflect on their own experiences and feelings related to the course or to their lives outside the course	11	55
4	To give students an opportunity to apply terms and concepts and to consolidate ideas from different topics or chapters within the course, or across courses within the curriculum	9	45
5	To give students the opportunity to practice research methodologies as valued in the field or profession	8	40
6	To give students the opportunity to express or develop their creative abilities	5	25
7	To give students the opportunity to create texts similar to those used in future workplace settings in your field	4	20
8	To apply course content, concepts or methodologies to benefit community organizations or meet community needs	3	15
9	No extemporaneous	1	5

The top two goals for the extemporaneous fell in the middle of the ranking for the major assignments, that is, to foster disciplinary thinking and argumentation, and to invite students to draw explicit connections between course content and their own experiences and beliefs. A good example of using writing to make personal connections comes from an interview with chemistry professor Craig Hoffman. For the extemporaneous assignments, he had the students write responses in their laboratory notebooks using a list of prompts that he provided.

> I give them a couple of prompts…questions like… ‘What was the hardest part about this lab?’… ‘What was the most challenging aspect for you and how did you deal with it?’… And I have a couple of faith-related ones, like, ‘Can you see the handiwork of God? In what way can you see the handiwork of God?’ And I've got like 20 prompts, …and they have to choose two for each of the five experiments. But everybody gets the same 20, but

> you can choose them in any order. And so it gives them a little bit of freedom, but it still makes it easier for me to evaluate their work. It makes things simpler if we know there's prompts to work with, and that was to me a very pleasantly surprising outcome, to be able to read what they actually felt about these prompts. And so, for me as a professor, it was just neat to get an insight on their experience, their emotional, personal experience in doing the experiment, not just the data they collected, the results. So that was good. And they write basically a page. So that's the extemporaneous part.

As we can see, Craig used the minor writing assignment to better understand the students' experience, to invite them to make connections with their own faith—a valued goal on this campus—as well as offering opportunities to reflect on the lab process. It is likely that Craig, perhaps like an increasing number of professors, recognized that reflection deepens engagement and investment (Yancey, 2016) and thus, feeds back into the goal of fostering disciplinary outcomes. As is the case with the major writing assignment, more than one goal can apply to a single assignment.

From the survey data also, we can see that a number of instructors valued the goals of inviting students to engage concepts from course readings and to reflect on and apply concepts to their lives outside the bounds of the course. In contrast to the major writing assignments, practicing research methodologies proved to be a much lower priority for extemporaneous and minor writing assignments.

4.1.2 Interview findings

In terms of pedagogical goals, the interview data corroborated the survey data. To ensure depth of analysis on the question, I examined the interview data using three different approaches. This allowed me to see different facets, yielding richer understandings and giving me greater

confidence in the reliability of the findings. The first approach was to take the wording from the list of pedagogical goals provided to survey participants and use these words or phrases as codes for tagging the interview data. The second approach was to go through the interview transcripts to look for all discussion of major writing assignments and then bring that discussion together with syllabus descriptions to look for clues as to the goals that the instructor associated with specific assignments. The third approach was to look at process coding to illuminate the decision-making during the design process. Given that instructors often discussed motivating factors behind the presence and design of a particular assignment, the process codes also helped identify the goals underlying the assignments. It will be obvious, of course, that all three of these approaches (with the exception of syllabus information) looked at the same data—what instructors said about their practices and thinking during interviews.

Coding with the survey codes shows that the interview data aligned fairly closely with the survey data, as we can see in Table 4.4. In this case, I am reporting only goals associated with major writing assignments because there is insufficient data to draw conclusions about the goals of the minor or extemporaneous assignments. For instance, a lot of extemporaneous writing is situated in exams or quizzes, and these rarely came up in the interview discussion.

Table 4.4

Goals for Major Writing Assignments based on Interview Mentions

Goal	Survey wording	N=9
Disciplinary thinking & understanding	To foster disciplinary thinking and approaches to argumentation useful in upper division and graduate work in your field	6
Research skills	To give students the opportunity to practice research methodologies as valued in the field or profession	6
Workplace connections	To give students the opportunity to create texts similar to those used in future workplace settings in your field	4
Connections to personal & worldview	To help students make explicit connections between course content and personal lives and worldviews.	3
Apply terms & concepts	To give students an opportunity to apply terms and concepts and to consolidate ideas from different topics or chapters within the course, or across courses within the curriculum	3
Reflection opportunities	To give students an opportunity to reflect on their own experiences and feelings related to the course or to their lives outside the course	2
Reading connections	To deepen understanding of and engagement with assigned readings	1
Creative expression	To give students the opportunity to express or develop their creative abilities	0
Community connections	To apply course content, concepts or methodologies to benefit community organizations or meet community needs	0

As we can see, fostering research skills tied for first place with disciplinary thinking, with six of nine participants explicitly mentioning such goals during one of the two interviews. In fact, although this is not captured in the table, all nine of the participants mentioned either research skills or disciplinary thinking as a primary goal and motivating factor for the major writing assignment. This became more obvious when I zeroed in on major writing assignments and examined them by comparing multiple interview mentions with syllabi and other artifacts

that illuminated these assignments. This approach eventually generated Table 4.5[9]. (The full version of this data analysis step is in the appendix.)

Table 4.5

Major Writing Assignments by Pedagogical Goal as Mentioned in Interview

Assignment & discipline	Pedagogical goals mentioned in interview
Philosophy statement (Education)	• Review and synthesize ideas from educational tradition • Reflect and integrate own ideas • Integrate Christian world view with disciplinary tradition
Research report (Physics)	• Write up research in style of publishable article • Publish in LaTeX • Generate effective figures & tables
Proposal for senior thesis (Biology)	• Comprehend process for completing a research project • Generate plan for research project in science • Create effective figures and tables
Research paper (with museum journaling) (Art)	• Engage art and glean personal and spiritual insights • Acquire the techniques of art criticism
Art theory timeline & manifesto (Art)	• Integrate Christian worldview with philosophy of art and tools of art criticism • Reflect and integrate own art with philosophy of art and with ideas from another artist
Short essay (Business)	• Use thesis-driven essay to formally structure an argument • Communicate in clear, objective style
Case study paper (Business)	• Systematically evaluate business environment to find problems and generate appropriate strategies to address those problems. • Communicate in clear, objective style • Make logical progression between ideas
Lab report and/or research report (Chemistry)	• Generate lab report from rigorous and careful records of experiments in lab notebook. • Generate effective figures and tables
Evidence-based practice paper (Nursing)	• Understand quantitative and qualitative research reports • Apply research findings to nursing practice • Make scriptural applications to life and professional practice
Book review (political science/history)	• Critique and analyze a written argument in the field • Summarize and generate implications. • Use an objective style, striving to avoid bias

[9] The goals in table 4.5 are not ranked in order of priority.

Table 4.5 Continued

Assignment & discipline	Pedagogical goals mentioned in interview
Research paper (political science/ history)	• Leverage reading to find an engaging topic of personal interest and explore further in more depth • Adopt a tone that avoids bias and fairly considers other points of view
Literature review (social science)	• Engage sociological theory in study of aging • Become familiar with social science research report structure by constructing paper in sections

Here we can see that instructors mentioned multiple goals for each major assignment. In order to better understand which goals appear to be most salient, we can take the goals associated with each assignment and reorganize the information to focus on the types of goals, as in Table 4.6. Giving the number of participants mentioning the goal now allows them to be ranked by frequency. Once again, we see the salience of disciplinary goals, and in particular, the goal of coaching students on research skills, and in the argumentation and expectations associated with writing in the field.

Table 4.6

Pedagogical Goals Mentioned in Interview Ranked by Type of Goal

Research skills (5 participants)
● Apply research findings to nursing practice ● Become familiar with social science research report structure by constructing paper in sections ● Comprehend process for completing a research project ● Create effective figures and tables (*mentioned by three participants*) ● Generate lab report from rigorous and careful records of experiments in lab notebook. ● Generate plan for research project in science ● Understand quantitative and qualitative research reports ● Publish in LaTeX ● Write up research in style of publishable article
Practice disciplinary thinking and argumentation (3 participants)
● Acquire the techniques of art criticism ● Critique and analyze a written argument in the field of history/political science ● Summarize and generate implications. ● Systematically evaluate business environment to generate strategies to address problems
Experience, personal engagement, reflection (3 participants)
● Engage art and glean personal and spiritual insights ● Integrate Christian world view with disciplinary tradition ● Make scriptural applications to life and professional practice ● Reflect and integrate own ideas
Assimilate style expectations valued by the field (2 participants)
● Adopt a tone that avoids bias and fairly considers other points of view ● Communicate in clear, objective style (*mentioned by two participants*) ● Use an objective style, striving to avoid bias
Engage theory and concepts (2 participants)
● Engage sociological theory in study of aging ● Review and synthesize ideas from educational tradition
General writing skills, not disciplinary per se (1 participant)
● Use thesis-driven essay to formally structure an argument ● Make logical progression between ideas
Engage reading (1 participant)
● Leverage reading to find an engaging topic of personal interest and explore further in more depth

The finding about the importance of fostering research skills and disciplinary thinking aligned with a supposition that was the original impetus for the dissertation project. In an earlier

unpublished study, I interviewed two business professors, assuming that they might assign simulated versions of workplace genres like project proposals, annual reports, and letters of various types. However, this turned out not to be the case. Instead, instructors designed or adapted assignment genres that led students through the thinking processes valued by business professionals. The implication that professors seem to use writing to scaffold disciplinary thinking became the seed of this dissertation, the idea that writing at the undergraduate level was focused on guiding students to reason like professionals and/or disciplinary practitioners. The evidence from the current set of interviews suggests that there may indeed be a significant fit between how assignments are conceptualized and scaffolding student thinking in ways valued by the field. This aligns with Carter's (2007) discussion of writing that links disciplinary knowledge and practice. "The disciplinary ways of doing that faculty identify provide a direct link between ways of knowing and ways of writing in the disciplines. Doing enacts the knowing through students' writing, and the writing gives shape to the ways of knowing and doing in a discipline" (p. 391).

But we can delve a little deeper into these findings by using process codes applied to the interview data. To get started, I would like to go back to Nesi & Gardner's (2012) social functions and compare the goals for the major writing assignments in this sample with the goals identified in their study. The results are in Table 4.7.

Table 4.7

Assignments from Interview Sample with Pedagogical Goals and Genre Family

Assignment	Pedagogical goals mentioned in interview	Pedagogical focus	Genre family
Philosophy statement (Education)	▪ Synthesize ideas from educational tradition ▪ Reflect and integrate own ideas ▪ Integrate Christian and disciplinary traditions	Informed, independent reasoning	Critique
Research report (Physics)	▪ Write up research in style of publishable article ▪ Publish in LaTeX ▪ Generate effective figures & tables	Research skills	Research report
Proposal for senior thesis (Biology)	▪ Comprehend process of research project ▪ Generate plan for research project in science ▪ Create effective figures and tables	Informed, independent reasoning; Professional practice	Proposal > research report
Research paper (Art)	▪ Engage art and glean personal and spiritual insights ▪ Acquire the techniques of art criticism	Informed, independent reasoning	Essay
Art theory timeline & manifesto (Art)	▪ Integrate Christian and disciplinary traditions ▪ Reflect and integrate own ideas and work with philosophy of art and with ideas from another artist	Informed, independent reasoning	Critique
Short essay (Business)	▪ Follow essay structure to make logical argument ▪ Communicate in clear, objective style	Informed, independent reasoning	Essay
Case study paper (Business)	▪ Generate strategies for business problems. ▪ Communicate in clear, objective style ▪ Make logical progression between ideas	Professional practice	Case study
Lab report (Chemistry)	▪ Generate lab report from rigorous and careful records of experiments in lab notebook. ▪ Generate effective figures and tables	Research skills; Professional practice	Methodology recount
Research report (Chemistry)	▪ Develop hypothesis, driven by knowledge of literature, and explain experimental results ▪ Generate effective figures and tables	Research skills	Research report
Evidence-based practice paper (Nursing)	▪ Understand quantitative and qualitative research ▪ Apply research findings to nursing practice ▪ Apply Bible to life and professional practice	Research skills; Professional practice; Informed, independent reasoning	Literature survey
Book review (political science/history)	▪ Critique and analyze a written argument in the field ▪ Summarize and generate implications. ▪ Use an objective style, striving to avoid bias	Informed, independent reasoning	Critique
Research paper (political science/ history)	▪ Leverage reading to find an engaging topic to explore in depth ▪ Adopt a tone that is fair and unbiased	Informed, independent reasoning	Essay
Literature review (social science)	▪ Engage sociological theory in study of aging ▪ Become familiar with social science research	Research skills; Informed, independent reasoning	Literature survey

Using “pedagogical focus” to align with Nesi & Gardner’s “social goals,” we can see what each of these writing assignments emphasizes in terms of students’ disciplinary and professional development. In several cases, I have identified more than one focus with an assignment in the sample. The defining social function, that is, the pedagogical focus that generates the genre family classification is generally listed first. The exception is the case of the biology proposal. Professor Bruce Ivers explained how the proposal simulated the structure of the final research report while also providing features typically associated with a proposal, like timeline and budget. So arguably the primary goal was to induct students into the research process rather than acquaint them with the proposal genre. Nevertheless, the use of the proposal as a planning document was certainly still relevant.

The nursing paper deserves special mention because it was designed to draw together three goals. Developing research skills is, by definition, a primary goal for the major project in a research methods class, but here students were required to choose topics relevant not only to the workplace in general, but as far as possible, their own specific job setting, a requirement that was not difficult for students already in the workplace, but harder for those whose work experience had so far been limited to clinicals. In any case, this meant that the goal of professional preparation was also a vital part of the assignment. Finally, the professor brought in a strong personal commitment to what was also an institutional value, the goal of asking students to integrate biblical values into their coursework and professional preparation. To fulfill this goal, the students were required to explicitly bring in at least one biblical reference as an additional textual source and be able to defend the fitness of their choice.

The literature review for Sara Olson’s course in gerontology, like the nursing case, focused on fostering research skills, but as of our second interview, she had added a requirement

that students integrate sociological theory. The previous requirement had been that students would make an application to their workplace, which would align with a pedagogical goal of preparation for professional practice.

The fourth assignment associated with two goals, the chemistry lab report, illustrates an issue we have not yet discussed and that is the fact that two of the social functions can end up overlapping in practice. For example, in the hard sciences, it may be difficult to distinguish between workplace practices and the research skills associated with academia. For instance, the LaTeX typesetting language, as physics professor Paul Hunt noted, was a “skill set that every working scientist knows” but not one that many learned as undergraduates. In other words, he saw LaTeX as a workplace tool, but given that the laboratories of many “working scientists” may well be in academic settings and that graduate students labor along with career scientists in the same labs, engaging in legitimate peripheral participation (Lave & Wenger, 1991), the social function of learning a research skill may be equivalent to preparing for professional practice. In fact, I have only included the goals in the chart separately in the chemistry case, however, because in his syllabus, Craig Hoffman explicitly stated his core goal as “to prepare you to work as a professional in a scientific field.” But the lab reports, the workplace writing of the laboratory, fed directly into the research report. This was precisely where research skills crossed over into preparation for professional practice. Another example of the same point is when biology professor Bruce Ivers noted that a core goal for him was to accustom students to using a writing guide, which is arguably both a workplace competency as well as a research skill.

It is probably fair to point out that the habits of disciplinary argumentation are also going to bleed into "research skills” at the higher levels of disciplinary training. This is where knowing and doing become fully intertwined with writing. On the undergraduate level, there is likely to

be a gap between the two, even as it narrows in upper division courses. Assignment genres that are not research-based can also simulate the practice of professionals in a field. As Brian Sellers noted of his case study assignment, “There's an analogous aspect to what they would do here in this assignment versus what they would do outside,” meaning in a business setting. If it is true, as we have been arguing, that assignment genres scaffold the habits of mind that underlie professional practices, then it is not surprising that as students advance in the discipline or profession, that assignment genres may begin to resemble professional genres.

The alignment of genre with specific ways of reasoning means that another common goal is to scaffold the acquisition of useful genres, genres that have certain expectations baked into them. One relevant example is Craig Hoffman’s chemistry course. In one of the interviews, Craig showed me a chart that he uses with his students, which gives a section-by-section breakdown of the rhetorical moves of a lab report compared with a research report. He defined the purpose and logic of each section of the paper, the details of what to include there, and the formatting expectations for the section. But most interestingly, he gave explicit instructions about the syntax and style, indicating, for instance, which parts should use active versus passive voice and where verbs should be in present versus past tense. In this chart, Craig drew on his knowledge of genre expectations and mentored his students through the lab procedures while training them to employ the values and practices of scientific experimentation that underlie the genre. Although he did not discuss how rhetorical and disciplinary practices shaped the evolution of the genre as traced by genre researchers such as Charles Bazerman (1988), Craig recognized some of the same features as he worked to make them transparent to his students.

Another example also demonstrated the centrality of certain genres and how professors scaffold their acquisition. In his proposal writing course, Bruce Ivers required students to prepare

the sections of the final research report including simulated findings, a practice that he reported faced some push-back from colleagues.

> I actually have them do an expected results section, and we have some professors that are like, well, you wouldn't really do that in a real proposal if you were writing it. Yeah, yeah, but the point is… to make sure the student understands how they're going to analyze the data before they ever start it, make sure that they can actually do the statistics, make sure they actually know how it's going to be presented. Because you need to know… what the end product looks like before you start. And then when they get to [their] thesis, then, they're just taking their actual data and plugging it in in place of the data they made up, you know. So, they've already run all the statistics, they've already made all the figures and everything, right?

This example illustrates the way that the final genre, the research report in science, is interlinked with and drives the practices in science, but also how the sections of the genre become not just placeholders for a certain kind of content but an affordance for an instructional activity, namely, coming up with and plugging in simulated findings as a way of making both process and product robustly salient for students.

Assignment genres can overlap with disciplinary genres, as here. The research report that emerged as a final product for students in the biology research track can be assumed to approach the research reports written by graduate students and professional scientific researchers. But Bruce's modification of the proposal document also demonstrates that assignment genres are hybrid genres, and this has some implications for our focus on design.

Let's start by comparing the concept of design as an act of conscious intervention with the concept of genres, which are assumed to emerge via recurrent collective action, meaning that

both agency and innovation, the essence of design, are blurred. To put it another way, it would be difficult if not impossible to pinpoint the origin or originator of most real-world genres. As Bawarshi (2003) notes, "individuals communicate by choosing (and being chosen by) a particular genre (or by combining genres) within a system of related genres in a given sphere of speech community, [that is], an 'activity system'" (p. 33). Communicative acts do not appear in a vacuum; they are compelled or motivated. This means that, as Bawarshi further notes, "exigence is learned behavior, a learned recognition of significance that informs why and how we learn to respond in and to various situations... as cultural artifacts, [genres] embody exigencies and in using genres, we enact and reinforce these exigencies as recognizable, meaningful, consequential actions" (2003, p. 41). All genres could in theory be traced back to a single act of writing, but in practice, when an exigency is embraced, a writer can turn to a genre that typically fulfills that social action. Both professional and workplace genres and assignment genres exist to enable actions valued for the sorts of goals that recur. The sorts of pedagogical goals represented in Tables 4.2 to 4.5 do tend to point to particular assignment genres, as is demonstrated by the research of Nesi & Gardner (2012), represented in Table 4.1. But assignment genres have a feature that distinguishes them from many real-world genres, including workplace and professional genres.

The exchange implied in the pedagogical process means that assignment genres, unlike many real-world genres, do not emerge from writers but are imposed by those who call for the writing, that is, instructors. Wardle (2009) distinguishes the "mutt genres" in first year writing classes from those that students do within their disciplines, noting that "disciplinary genres are tools used to accomplish work central to a discipline" (p. 767). However, even disciplinary genres as assignment genres have a "mutt-like" aspect in that they only partially emerge from the

logic of the practices. Many writing assignments draw on disciplinary genres but with pedagogical features added. It is also not difficult to imagine instructors conceptualizing their specific pedagogical goals for a specific set of students in a specific course and hence, designing a writing assignment, from scratch, to meet those goals. Of course, even in these cases, instructors will draw on their knowledge of genres, disciplinary and professional as well as popular and emerging genres, as analogies. It is, in fact, also easy to imagine an instructor drawing on emerging genres from social media and online spaces as a way of engaging student interest. The point is this: assignment genres should be assumed to emerge from disciplinary practices, but instructors have the capacity to invent or reinvent albeit not without an awareness of what is typically done. This process of adaptation is where the notion of design plays a role.

The disciplinary practitioner, socialized in practices that value particular exigencies, reaches for the genre that offers the appropriate framing of the intellectual work at hand. This act of choice retains a level of intentionality but would not typically be conscious and does not usually include innovation, though innovations are always possible, a point that Schryer (1993) implies in noting that genres are "stabilized-for-now or stabilized-enough sites of social or ideological action." In other words, stable genres offer benefits to users, but the users themselves always have the option to add, subtract or change functions and features, pushing the genres in new directions. From the interview data, however, we can see that the instructors who drew on conventional genres in their fields could and often did make goals and expectations explicit to students. But the expectations already baked into the genres invited the actions, not the preferences of the instructor. Here's an example from biology professor Bruce Ivers in his discussion of the proposal writing course.

> We work on the introduction, the methods, the expected results—we don't work on the discussion yet, that's gonna be for when they do the thesis—and they actually come up with a budget for it, a timeline for it. And basically, the way the course works is… let's say they're working on the introduction, you come in and we focus on what an introduction is, what an introduction looks like, the purpose of the introduction, the different components that it… should have, and then the students go out and start reading literature.

The fact that the genre and its features are assumed as a given is indicated by the use of the definite article, "*the* introduction, *the* methods." But it is also shown by the fact that the first plural person pronoun describes engagement with the genre, "*we* work on…, *we* focus on…" rather than laying out the demands or expectations of the individual instructor ("I"). This contrasts with instructors whose writing assignments diverged from conventional genres. In their interviews, these instructors describe the ways that writing projects in their classes foster particular types of thinking with statements like "I wanted them to…" or "I think it is very helpful to…" Thus, for many instructors an early step in the design of writing assignments is accepting a particular genre and set of expectations as a given. The innovation involves creating the scaffolding framework to help familiarize students with the genre and effectively communicate the disciplinary values and practices that generated it.

To summarize this section on the pedagogical goals that instructors reported in the interviews, a crucial motivating factor for many writing assignments and the scaffolding that instructors build around them is the impetus to inculcate disciplinary reasoning, and this can be fostered through genres and conventions that transcend genres. In this case, design is less about

devising a new writing activity and more about considering ways of directing students' attention as they engage the genres and adopt the expected conventions.

Before moving on from pedagogical goals, I want to mention two pedagogical goals that the survey did not include but were mentioned in the interviews, though in each case by only one participant. One was to use writing to build community between students in the course, as Sara Olson hoped to produce with the discussion forums in her online class. Writing in this way and for this purpose is frequent in online courses, and research for improving the practice abounds (see, for instance, Milman, 2017). But it may be a growing practice in face-to-face classes as well. When the COVID-19 pandemic emerged in 2020, many campuses moved all instruction online for at least a semester, and, in many cases, embraced varied hybrid practices while dealing with the ongoing effects of the pandemic even after campuses returned to versions of face-to-face instruction. A faculty aware of and trained to use digital tools for building community at a distance could continue to use these tools for that purpose, or perhaps use in-class writing activities to do so. Whether the use of writing to facilitate community-building becomes more salient as a pedagogical goal in the coming years remains to be seen.

The other pedagogical goal not explicitly indicated in the survey that got an interview mention was the goal of building general writing skills. This may be assumed to be an implicit goal for WAC courses, but I had assumed that instructors outside of English and journalism would focus their attention on disciplinary content, inquiry strategies and writing expectations associated with disciplinary or workplace genres, especially given the assumption in the United States that general writing and communication skills are dealt with in general education courses. However, business professor Brian Sellers identified the goal of fostering general writing skills

that would extend beyond his discipline. To accomplish that goal, he had assigned several short essays using a model he believed would likely be familiar to students.

> What I was anticipating is for them to be familiar with the five-paragraph writing assignment style and to be able to demonstrate their ability to adhere to that. And my rationale for that when I talk with them is that five-paragraph essay style is one that allows the reader to be able to anticipate what's going to come next and that... there are different writing styles. But I want you to at least be familiar with one by the time you graduate, and it also helps in being able to assess them on a somewhat equal basis. This is what I'm expecting from each one of those and as I read it, I would like to be able to step through the introduction, the support paragraphs, and the concluding paragraph, and be able to make a fair assessment for each student.

In this statement, Brian is making explicit connections to a transdisciplinary, or perhaps pre-disciplinary, assignment genre imagined to help students construct a competent and coherent argument. By using this assignment genre as a tool for structuring arguments, Brian demonstrated an interest in reinforcing general writing skills in a more comprehensive way than instructors who only mentioned improving sentence structure and usage as secondary goals for their writing assignments.

However, a final point worth making is that Brian redesigned his course between our first and second interviews, and in the new version of the course, he dropped the short essays but admitted that this gave him less opportunity to revisit general writing skills.

> If there's a way for me to somehow incorporate the, at least, paragraph structure or essay structure, I'm trying to do that but… I've shifted away from the technical writing aspects of structure… I'm still looking at their writing, still critiquing... the way they write… but

> my instructions are very, very general in the sense that, okay, I'm looking at sentence structure, I'm looking at grammar and I'm looking at spelling, and... I want full thoughts in a paragraph and not run-on multiple thoughts, not run-on paragraphs if you will, and so that's as much of direction in writing as I'm giving this semester. I used to give a lot more.

The loss of the short essays and more limited discussion of general writing skills suggests that when push came to shove, disciplinary goals took precedence.

4.2 Imagined futures

Pedagogical goals point to the future by definition. They indicate that instructors are not only focused on the students sitting in front of them today but imagining how the concepts and skills of today may be useful tomorrow. Instructors visualize their students as fulfilling various roles—graduate student, disciplinary professional, engaged citizen, and for those within a religious tradition, perhaps as a member of the faith community with which they are aligned. But to what extent do faculty think consciously and explicitly about student futures as they design assignments? And when they think of these, to what extent do they look mostly to plausible next steps, such as graduate school, as opposed to the longer arc of a student's career? Further, to what extent do professors think outside of the students' career trajectory to life-balance or, in the case of religious institutions, to imagine the role of faith integrated into the students' lives?

In fact, all interview participants did reference the imagined future as a design input. These mentions came in various contexts, differed in specificity, and pointed to different spans of time from the more immediate to the longer term. Many mentioned the futures of students unprompted, but in some cases, I explicitly asked participants to talk about how salient the consideration was for them. Whether the mention was solicited or unsolicited, "considering

student futures" emerged as a robust theme in process coding. In other words, these mentions surrounded a discussion of design or design thinking related to the writing assignments, the course, or the larger curriculum of the department.

To better understand the ways that instructors imagined student futures, I further organized the interview excerpts that received the "considering futures" process code into categories. Then, I placed the excerpts into a matrix that identified the general life stage that was being referenced and what was in focus in the mention, whether a mindset, a skill set, a facet of writing practice, or a spiritual or worldview focus. These four focal points emerged from the data; they were not imposed on it. Table 4.8 shows the results in quantitative terms.

Table 4.8

Interview Mentions of Student Futures by Period and Type

	Foster a mindset	Foster useful abilities or skills	Carrying writing, research skills	Lay a spiritual foundation	
Future, not defined	0	1	1	1	**3**
While in college	1	0	0	0	**1**
Grad school	0	2	2	0	**4**
Career or profession	5	4	6	1	**16**
Lifelong	2	0	0	1	**3**
	8	**7**	**9**	**3**	

A participant is counted only once in each cell but may be counted more than once over each row or column. That accounts for the fact that there are only 10 participants, but 16 mentions in the Career or Profession row. In other words, several participants referred to

different aspects of the Career or Professional future at different points in the two interviews. What this table can tell us is that graduate school is referenced as an imagined future, but participants are even more focused on students as professionals in a field related to their coursework. This makes sense in terms of influences if we think of professionals' own successful entry into their professional present, and from this vantage point, they can now imagine their students into a similar, or perhaps even better, future.

All instructors did imagine student futures but there was a continuum in terms of the degree to which they did, and the types of students enrolled in a class made a difference in these calculations. For instance, the social science professor, Sara Olson, weighted her sociology course towards nursing students and pre-med students rather than social work or sociology students because the majority of those enrolled hope to enter health professions. She considered the professional goals of her students, but it did not appear to be a primary input for her design decisions. On the other end of the continuum was political science and history professor Pamela Sherman who brought up student futures repeatedly in interviews. It appeared to play an important role for her as she conceptualized and planned her courses, which tended to attract majors and minors in political science and history and was cross-listed between the two programs.

Again, as Table 4.8 shows, the most salient consideration seems to be students' professional or vocational goals. In fact, this emphasis surprised me because my recall of the interviews had left me with the impression that graduate school was more focal. A possible reason for this impression is that at the time of the interviews, three of the participants were working on a doctoral program or had recently completed one, and these participants spoke at

length about how that experience shaped their goals for their students as well as their design choices. I will look at education as an influence in a later section of this chapter.

Not surprisingly, it is salient for instructors to think in terms of the next stage for students, often graduate school, but possibly other courses in the undergraduate curriculum, as in the case for the one mention in the While in College row in Table 4.8. (See Table 4.9 for the quote.) This next-stage effect comes through clearly in Craig Hoffman's answer to my question about student futures. "So we are more focused on—I would say in general, and this includes me, or I should say this is how I do it and I think other people do it the same is more accurate—is to prepare them for their next stop." He went on to note that for many of his students the next stage is medical school. Similar thinking likely underlies Paul Hunt's answer to the same question when he replied, "The imagined future is going to graduate school."[10] Further evidence for this proximity effect is the fact that many instructors likely see part of their job as offering advice on the process of getting a job or getting into graduate school. This was certainly the case for Pamela Sherman, talking about the several ways that her current doctoral program had been impacting her teaching.

> Also, I think that it's helping me as I think about how to mentor them into job prospects. Because, you know, we are having so many work job talks at my university, and I'm thinking about, you know, how students have different passions and how can I get them where they want to go by having these conversations and, you know, this is my second graduate program, and so I feel like I have a little bit of insight as to how to mentor students through… GRE and... the application process and obviously I had done it before

[10] In the participant check stage Paul emended this to "the imagined future is working in industry or going to graduate school." The fact that Paul's original response did not mention "working in industry" suggests that this future is at least slightly less prominent in his thinking.

but doing it again so recently makes it feel a little bit more applicable to what is happening for my students.

As a final overview of the different ways that participants reference student futures, Table 4.9 gives sample quotes for each cell in the matrix already shown in Table 4.8. I included one typical quote for each cell except for the one connecting writing skills to the profession, where I included two. We have already seen the many types of pedagogical goals for writing skills in the previous section of this chapter, but these two quotes show that even when specifically imagining students in graduate school or a profession, instructors think of different takeaways in terms of writing skills.

Table 4.9

Sample Mentions of Student Futures from Interview Data

	Foster a mindset	Foster useful abilities or skills	Carrying writing, research skills	Lay a spiritual foundation
Future, not defined		"I've been saying that we need to have a clear picture of what our graduate looks like… If you walk out with a few basic skills, you can take those skills and apply them to lots of different things if you're really good at that one point" (*Bruce Ivers, biology*)	"I want them to be able to communicate to their reader, and this is an effective structure for communication… I want you to have at least one style, this style that you can use once you graduate." (*Brian Sellers, business*)	"We hope to instill in our students… that they need to think… very deeply about the content of their art and how that content will hopefully bring hope… be very intentional about having a purpose that brings a positive message to the world and not just more desperation." (*Ariana Harris, art*)
While in college	"I am completely fine with my students in this 200-level… class taking a paper… and then applying it to my [upper division] class next semester, build into a larger paper… something that is going to be polished." (*Pamela Sherman, political science & history*)			
Grad school		"You know, there's just a couple tools that I thought would be very useful to our students… if they find themselves writing in the future, say in graduate school." (*Paul Hunt, physics*)	"So the research paper I think is very helpful to building the skills needed for graduate school" (*Pamela Sherman, political science/ history*)	

Table 4.9 Continued

	Foster a mindset	Foster useful abilities or skills	Carrying writing, research skills	Lay a spiritual foundation
Career or profession	"In my news announcements, especially like my online class, I'm like, hello, nurse researchers, hello, nurse researchers, hello, nurse researchers and my leadership class, hello, nurse leaders, hello, nurse leaders, and so getting them thinking that way" (*Robin Nelson, nursing*)	"I'm constantly reminded in my faculty meetings that many of these students aren't gonna go to grad school, they're not gonna go to law school… So that is continually in my mind as to well, if they're not going to graduate school, what skills do they need." (*Pamela Sherman, political science/ history*)	"I think… what it does, it structures their thinking should they have assignments similar to this in their organization… they can hearken back to this major project and say, ok, how do I attack this." (*Brian Sellers, business*)	"But I also know how to exist in a secular world… I think… making it so that you know how to be a Christian in the real world outside of our faith is really important." (*Pamela Sherman, political science & history*)
Lifelong	"I'm trying to develop someone that is employable but I'm also trying to develop someone that's well-rounded." (*Pamela Sherman, political science & history*)			"I want them to be successful in their careers, but… to me success is… if their faith has been reaffirmed." (*Ariana Harris, art*)

One writing assignment in the sample was particularly interesting in its relationship to students' futures. At several different points in the two interviews, Ellen Deere mentioned the value of the philosophy statement as an anchor document to carry into professional life and to build on over the course of the students' teaching careers.

> And really, I emphasize to the students that that is a living document. It is something that is going to go with them as they go out of the university. And it will change, but they can still go back to that original document and start making those changes as their ideas change. So, it's not intended to be a one-time assignment that it's over and it's done and

> it's put somewhere but rather something that is part of your resume and those materials that you have as you get ready for a job assignment.

This was the only assignment in the sample where the written product itself was imagined as a bridge to future practices. It seems likely to me that this is a marked but interesting case. Perhaps instructors occasionally imagine students pulling a school paper out of a file or finding one buried deep in their digital archives, but it is likely that most of the time it is the experience that is supposed to leave its mark when the paper itself has been deleted or tossed into the rubbish bin.

As instructors consider students acquiring skills to equip them moving forward, they likely think of these developmentally, as building on skills from earlier courses that prepare them for the current writing assignment, which in turn reinforces some skills and capacities and introduces others. In a number of the interviews, for instance, instructors discussed the curricular trajectory of a student's current program as well as the longer arc. As already noted when considering the types of writing-emphasis courses in this sample, a number of the courses occurred late in students' program, some as capstone courses. Several of these came up in the data where the culminating quality of the target course was foregrounded. For instance, in Ariana Harris's course on art theories and worldview, she identified the course in this way: "And then that is the culminating course because we really as a department want to make sure that they get the Christian worldview." It makes sense that when students were invited to review their art studies and influences and the philosophies within the field, they would be called to do so through the vehicle of a major writing assignment, very much in the way that many education students are invited to do in the philosophy of education course.

While it is unsurprising that capstone courses would have a look-back-look-forward type of orientation, the interview data showed that this could also be true of courses that occurred earlier in the curricular sequence. Physicist Paul Hunt made a point that mastering the typesetting language of LaTeX was a goal of the course on writing in physics, the one-credit writing-emphasis course he teaches. However, he also ensured that students are exposed to LaTeX in an earlier content course:

> They take Modern Physics, that's the first upper division class that every physics major takes ...when I took over that course, the first thing I did is I said, 'Okay, you're gonna do all those writing assignments in LaTeX, and I'm gonna show you how.' So, by the end of the course, they knew how to make a LaTeX document, a basic one, not with all the tables and things but just you know how to make a title and then add an author then an abstract. So, that's just something I kind of expected…

Paul noted that students in that course are not expected to know how to do scientific writing. However, he introduced them to some of the features of the research article genre as well as asked to produce these features within LaTeX. This meant that as Paul taught Modern Physics, he was looking ahead to the next class in the sequence and ensuring that the two courses worked together in scaffolding the skill development of the students. "So that's kind of the beginning of the writing experience and [in the writing-emphasis course] they're at the end of their writing instruction." Clearly, the Modern Physics course looks at two stages in students' professional trajectories. It saw them as competent seniors moving into the science writing course, and it looked beyond that course to see them prepared for graduate school and a profession in science.

The interviews with biology professor Bruce Ivers made the developmental stages in that program even more explicit. Bruce played a guiding role in the design of the research track for the bachelor's degree in biology, which included developing a writing guide as well as determining how each course builds towards the next in the sequence. For instance, during the labs for Biology I, "I would teach them the difference between a figure and a table, when we use a figure and when we use a table and how we construct those. Well, that goes right into Biological Analysis because we do the same thing there." In that course, students learned to write a methods section and the relationship between the methods and results section of a research article. "By the time they finished Biological Analysis, they've got introduction, methods, results, you know, by that time, they have a good idea of how to write the whole paper... So, when they come into Proposal Writing, they're not coming in completely blind."

Other participants also referenced the way that the writing-emphasis course built on skills developed in other courses, but these two examples illustrate the point that these instructors were conscious of the developmental and curricular trajectory of the students and that they referenced both in course design. Further, the examples illustrate that instructors imagined students in both short-term and long-term ways and used that information to design or redesign assignments. In other words, they were working with a vision that imagined disciplinary socialization and the building of a disciplinary identity as developmental, as a stage in a process that stretched back to earlier classes and forward to those yet ahead. As Wenger (1998) notes, "As a trajectory, an identity must incorporate a past and a future" (p. 215). This is true for the identities that professors imagine for students, just as it is for the identities that individuals imagine for themselves. In fact, how instructors imagine students' career trajectories seem logically to emerge from the instructors' own past experiences, and the most relevant of these would seem to

be their own disciplinary socialization, mostly from their education but also potentially from work experience inside or outside of academia. This is a key way that the design process balances the imagined future with the resources of the embodied past.

4.3 Disciplinary expectations

Disciplinary identity clearly shapes the design of writing assignments. In this sample, we can already see this from the pedagogical goals that survey and interview participants indicated as well as the way that they talked about student futures. But disciplinary identity is a fuzzy and unstable concept. As Phelps (2014) notes,

> Disciplines are open networks, self-organizing and constantly on the edge of chaos. Intellectual communities, because of the way they work through competition and argumentation, tend to be internally diverse and fractured and to move through cycles of division and merger. Networks are constantly in the process of being assembled, disassembled, and reassembled at different scales, for different purposes, and on different principles of commonality (p. 10).

At the same time, enough perception of stability exists for academics to align themselves with and shape their identities around formations that are typically referred to as “disciplines” or “fields.” In a 2001 monograph Becher & Trowler discuss the many challenges of defining disciplines in any stable way. However they do see enough stability to examine the features of disciplinary culture, noting, “The ways in which academics engage with their subject matter, and the narratives they develop about this, are important structural factors in the formulation of disciplinary cultures. Together they represent features that lend coherence and relative permanence to academics’ social practices, values and attitudes across time and places” (Becher & Trowler, 2001, p. 23).

For the design of writing assignments, disciplinary influences enter the system from several points of input. First, the class is situated within a curriculum administered by a specific department, which is generally associated with a specific discipline. Both the packaging of courses into majors or concentrations and the presence of institutional units such as schools and departments have structuring effects in terms of disciplinarity. Becher & Trowler (2001) argue that while disciplines are stabilized in several ways, "the most concrete and permanent enactment is the department" (p. 67). The second disciplinary input comes from the instructor's personal history, the historical body. Of course, we have to bear in mind that these two inputs are mutually-constructing. Professors associated with a department give the department its shape, values, and commitments. They also have a great deal of input over the shape of the curriculum. But the department, the curriculum and the opinions and beliefs of colleagues also shape the professor; the instructor's participation in departmental and instructional activities also construct the instructor's historical body. Similar mutually structuring effects apply to the institutional culture as well. Trowler (2020) uses the term *teaching learning regime* (TLR) to refer to the assemblage of power relations, educational philosophies, conventions and practices, discourses and symbols, interaction structures, narratives and institutional relationships that act as the default setting on any given campus. The TLR reaches into each department and discipline but extends beyond them and unites pedagogical practices of the larger institution. We will return to institutional influences in the next chapter, but for the moment, thinking of the presence of the institution's TLR demonstrates that there is no clearly-defined boundary around departments as local instantiations of a discipline or field. Instructors circulate within larger institutional spaces and interact with co-workers who teach in other departments or serve the institution in non-teaching roles.

But to return to a focus on the departmental level, in a sense, each discipline is being continuously reinvented within each department at each institution. However, the larger forces of the discipline–the conventions and conferences, the professional journals, the recalled moments or mentoring relationships from graduate school, even the language of course textbooks—all establish constraints on reinvention. "These various frameworks—organizational, cognitive and social—can be seen to interact and at some points to interpenetrate, affecting the working lives of academics in different ways according to context" (Becher & Trowler, 2001, p. 20). Nevertheless, ultimately, the life of a discipline happens in local spaces—university departments, classrooms, labs—and their ancillaries—field sites, practice sites, shadowing sites, and other so-called real world locations where professor-researchers and their students spend time gathering data or applying the skills associated with the discipline.

Further, individuals must, to a greater or lesser degree, bring their own values and experiences into the discipline and the disciplinary space. Multiple influences intertwine in that “individuals, in becoming enculturated into a discipline, form their own professional identities through their participation not only in intellectual communities of practice—often more than one—but also in multiple other activity systems” (Phelps, 2014, p. 10). In this way and through synergizing with others, values that may have been absent or neglected can be imported; the discipline can then be infused with them. Interdisciplinary processes are similar in their manifestation given that the scholars practicing in the discipline make the discipline, after all, but they import values and meanings from earlier/other practices. Influences that students bring into the learning space also impact the discipline over time. Austin & McDaniels (2006) describe "a bidirectional process through which newcomers influence the organization and profession even as they learn what is expected of them." (p. 414). All of these influences captured under the

rubric of "discipline" work together to create habits of action as well as serving as a particular salient repertoire for design decision-making.

For many instructors, the disciplinary expectations come woven into the fabric of a course because it is inherited from a previous teacher. Eighty percent of survey participants (N=16) in the current study reported adapting a course that they inherited while only forty percent (N=8) reported having designed a new course that came to receive the W-designation. We can assume that even when an instructor designs a course from scratch, institutional and disciplinary influences play a role. A brand-new course, particularly one that is wildly innovative, has to be defended as fitting a collectively imagined outcome deemed suitable for the students in the program and matched against requirements for accrediting and certifying bodies. It is discussed, tweaked, voted, and then sent up the chain to be approved for the catalog or at least licensed as a one-time topics course. The process makes it difficult to distinguish which elements emerge from any instructor's own lived experiences, that is, historical body, and which are contributed through departmental and institutional processes, which themselves bear the traces of many hands and histories.

Before returning to the data, I would like to expand on the point a little further with an imagined example. Let's imagine that after penning his bestselling novel *The Kite Runner*, Khaled Hosseini, who was trained as a physician, was invited to teach creative writing courses as an adjunct professor in an English department. One imagines that Hosseini would bring into his classroom values and influences from his medical career and from his early life as the child of a diplomat growing up in Iran and France, along with insights on writing craft and process growing out of his experience with his novel. Were Hosseini to remain a writing teacher and perhaps over time increase his presence and role in the department, the values and activities

typical of the discipline of English would likely begin to shape his pedagogy in a more pronounced way. But how pervasive these effects might come to be would depend on many factors—how prescriptive the department was in making requests or demands, the types of instructional materials provided, the diversity and frequency of hallway and workroom conversations and so on. That is to say, the breadth and depth of his participation within the community of practice (Wenger, 1998) would play a consequential role in determining how much of the academic culture he assimilated and embraced. So, for an academic who has been socialized in the practices of a discipline and continues the process through participation in professional practices, it becomes difficult to continue to press the distinction between training and current professional environment. For that reason, as I shift into this section of the chapter, I will no longer attempt to trace the origin and flow of influence but simply report on cases where faculty explicitly mentioned the role of discipline in their thinking. We have already noted in the section on pedagogical goals that teaching disciplinary thinking was reported as an important goal in driving design. At this point, therefore, I will examine explicit interview mentions of disciplinary thinking or values.

Using the process code "aligning with the discipline," I found that seven of the nine participants who were interviewed twice mentioned disciplinary expectations at least in passing. For instance, in discussing her design decisions, political science instructor Pamela Sherman made frequent references to certain expectations about what was done "in the field." But others also made passing mentions that revealed disciplinary expectations and values underlying their practices, like business professor Brian Sellers who referenced the "kind of writing that I expect business students to have when they graduate."

Given that disciplinary expectations were reported as relevant to all the instructors surveyed, why were these mentions not more frequent in the interviews? The fact that disciplinary values and practices have become largely tacit and invisible could certainly be a reason. Working against this assumption, it also seems reasonable to assume that when instructors were speaking with me as a disciplinary outsider, they might refer to disciplinary values more explicitly. Conversely, it is also possible that non-disciplinary influences could be more salient in the moment of the interview as more marked, more worth mentioning. In any case, interview mentions don't provide a reliable measure of the weight of disciplinarity on practices. Nevertheless, we can still remark on its presence and look at how it was discussed. When discipline is evoked as an influence, we can argue that there is always an implied contrast—this is what *we* do, but others do differently. Sometimes the contrast is made explicit. This was sometimes done after first lumping the instructor's own discipline together with like disciplines, and then explicitly or implicitly contrasting the grouped disciplines with other types of disciplines.

Not surprisingly the lumping move occurred the most in the sciences. For instance, take physicist Paul Hunt's remarks on tools within his discipline: "I also wanted to bring in an emphasis on tools that are used in technical publications... There's a whole technical toolset that goes with that, a programming language that's commonly used… a typesetting language called LaTeX, which is used in STEM fields." In other words, rather than associating the skillset with physics per se, he was associating it with disciplines conventionally clustered together, "the STEM fields."

Likewise, Bruce Ivers lumped biology with other sciences, describes the writing guide as offering a standardized approach that tells students, "This is how we do it in science." At another

point, he discussed reading practices. “You see, most people aren't going to- I don't know how it is in other disciplines, in sciences, you're gonna read the title... Then the next thing that they're gonna do is they're gonna go to the figures.” Here he suggests a possible contrast with other disciplines who might read differently, thus again setting apart “sciences” as a category with a certain set of values and practices that must be fostered.

The sciences were not, however, seen as monolithic. Practices within specific disciplines in the sciences did matter and were understood as organized by that disciplinary community. In a discussion of why the university writing center would find it difficult to address what he calls “the technical aspects of writing,” Craig Hoffman made the point explicit. “We all do it different… so I don't have that expectation, you know, for [the writing center.] I don't have a disappointment that they don't… cover that side of things. But if they did start doing technical stuff, I mean, chemistry's going to want it one way, biology's gonna want it one way, physics is gonna want it one way, math is gonna want it one way and so, you know-”

That participants alluded to a grouping of the sciences and STEM fields was not surprising. We might expect other groupings, such as the social sciences, and there were some mentions, but these probably would have been more visible in a larger sample with more participants spread across a greater number of fields. In one example, Sara Olson mentioned that for the major writing assignment an important goal for students was “introducing them to social science research.” In fact, a large percentage of the students enrolled in her classes were nursing majors who would revisit literature reviews in a research methods class within the major, but the practice here was explicitly identified with the tradition that Sara identified with. Likewise, while she did not use a superordinate term to cluster disciplines, Ariana Harris pointed out that a scholar in the religion department whose research involves ancient iconography and seals

followed a similar analytical process to what she taught. “Same process—describe, analyze and interpret. And then, of course, you'll find biblical texts or whatever, ancient texts that go along with the artwork, the theme or whatever.” The implication is that this was a disciplinary practice that was nevertheless shared with disciplines with similar objects of study.

In addition to identifying practices with larger disciplinary groups, participants also described particular genres, tools or practices in specifically disciplinary terms. For instance, Ellen Deere discussed the philosophy statement as a “standard education requirement at many universities... that's pretty much what's expected somewhere along the way in their program, that [students] will develop that kind of statement.” Ariana Harris made a similar claim for papers that invite art students to “describe, analyze and interpret.” Pamela Sherman also made explicit connections between assignment genres such as research papers and book reviews, noting that these were expected within the field. Tools and practices were, at times, also associated with the discipline, as already mentioned with the LaTeX example, but Paul Hunt also referred to other tools as valuable to physics students. “I also introduce to Python programming in my classes… I want them to learn the tools of the discipline, even if they're not experts in it but just to at least [used] the tool once.”

One example of a go-to genre that inculcates disciplinary values is the lab notebook. Lab notebooks are key to doing science, complex multimodal tools that coordinate the phases of the research process—conceptualizing and planning the research, performing the research, refining ideas, and writing up the results (Doody & Artemeva, 2022). They are inscriptional nodes that tie together the genres and activities of the working scientist (Wickman, 2010). Use of a lab notebook is a practice shared by the sciences as a cluster of like disciplines. Chemistry instructor

Craig Hoffman made this explicit when discussing the values and practices fostered by the assignment genre:

> Well, it really is the introduction whether it's in biol- 'cuz our students are all going to be taking biology, physics, and chemistry at lower levels about the same time, in the first two years, and so I think there's a lot of similarity in all those as far as being an introduction to writing, keeping a lab notebook and the basics... Because you keep track of what you do, your observations, your measurements, your observations, your conclusions, you're coming into the lab with an idea that you've written down—potentially you may have written out a procedure, maybe not detailed, but steps that you're going to do—it represents your thinking in terms of how you're going to accomplish the task. And then in the- you know, we're not doing research here, we're not finding anything new, but then you take your idea and you take your procedure and your results and then you see, hopefully, that, you know, as a result of keeping that record you can look back and see did you get what you're supposed to, what you're expected to get, you can evaluate, did I make a mistake in the procedure, you can look back at your procedure and evaluate, you can look back and see what you were expected to get and did you or did you not, you know, so it's a record of what you anticipate and then what you did, and then, you know, you take what you did and what you expected and… we want our students to then be able to analyze and formulate some kind of conclusion about their work based on that writing. So that's the introductory idea of writing in science, in the lab notebook.

Craig spoke of the lab notebook as a genre that scaffolds a systematic approach to observation that exists across the sciences. The crucial word in the genre label involves the setting, “lab,”

which plays a conventional role in imagining the practices of sciences, but also elides the large variations between how the different sciences set up those spaces and the tools they use, and also erases the distinctions between labs associated with professional research and those used for pedagogical purposes. The crucial point in Craig's comment is the way that the genre teaches an approach to research and establishes common habits of mind and observation. The lab notebook is an assignment genre that scaffolds the way to a professional genre. Evans, Moses & Nathans-Kelly (2020) emphasize this feature when they note that "learning those disciplinary ways of communicating also constitute avenues into disciplinary participation and that familiarity and experienced performance or proficiency suggests disciplinary membership" (p. 7). As an assignment genre then, lab notebooks inculcate "specific knowledge practices that, as [students] become more proficient, encourage both their evolving participation and membership" (Evans, Moses & Nathans-Kelly, 2020, p. 7).

Disciplinary ways of communicating involve writing practices that inhabit yet transcend specific genres. An excellent example is the value that the STEM disciplines place on figures and tables. In fact, a number of scholars have looked at the role played by visualization in constructing knowledge and communicating in science (Coopmans, Vertesi, Lynch, & Woolgar, 2014; Hoffmann & Wittmann, 2013; Lynch & Woolgar, 1990; Pauwels, 2006). Latour (1987) describes the path from interactions with nature in the lab or field, through the measurements and inscriptions, to presentation of science in texts with figures and tables, which then come to play a mediating role as referents in scientific persuasion. The presentation of data in figures and tables thus plays a crucial role in moving to higher induction and arguing towards greater levels of certainty for the claims. In other words, figures and tables play a crucial rhetorical role in science communication. But Latour's discussion of how measurements and inscriptions are translated

into more abstract representations, including visualizations such as figures and tables, shows that these serve to construct knowledge as well as communicating it. Pauwels (2006) concurs, noting that the value of such representations "is judged by their functionality for resolving a problem, filling in gaps in our knowledge, or facilitating knowledge building or transfer" (p. viii). Thus, it is not surprising that all three participants in the sciences mentioned learning to construct effective figures and tables as a crucial pedagogical goal.

Bruce Ivers in biology, for instance, talked about explicit instruction related to this goal in one of the classes in the biology sequence.

> That would be something we would work on in that seminar class, so how do you construct a good figure, you know? What is a good figure? What should be left out of figures?... When do you use a figure?... We wanted to teach students those things… I can take one set of data and present it in two different pictures, and it tells two different stories, depending upon how you present that data in a figure and how you construct that figure. So, we look at how data can be used to move people this way or this way, same data… it's just how it's presented differently in a figure... you present it one way and the results are very clear. Present it a different way, it's like, what is it really saying, you know? So, we deal with stuff like that, you know. We even go back and look at historical evidence… like with the Challenger disaster… we go back and we look at the figures and stuff they presented, right? And it's like, it's so confusing and it's because if you just took that same data and presented it this different way, the way we normally would, it'd tell you that thing's gonna blow up and the reason it's presented the way it was because they didn't want that to be clear… same set of data, it's all in how you present it. You know,

> that opens up the whole field of philosophy and ethics in science and stuff, you know? Being responsible with the data you have.

Chemistry professor Craig Hoffman also mentioned the importance of building skills with figures and tables. For instance, he talked about specific training that he provides on creating effective figures and tables in chemistry.

> Another big thing for us in scientific writing is how you formulate a table, how you formulate a graph. This is very specific, you know. There's certain expectations. Every publisher has a different expectation for that... and so I act as the publisher and I designate this is the precise way these things need to be formulated and so they also do that as part of the writing training as well.

Physics is no exception. Paul Hunt mentioned the creating figures several times in the interview, but perhaps the clearest reference comes after I picked a book from his shelf as he fielded a phone call. When he put down the phone, he said:

> That book, *The Visual Display of Quantitative Information*, when we're making figures... we like to get it out and it has a lot of historical... different ways of displaying information going back hundreds of years. It’s just interesting to, with no particular plan, just to open up and let them leaf through and to talk about what they’re seeing and talk about the design decisions that they are seeing that were made in making those figures and it seems like by the end, after looking through that, they just feel a little more empowered to design their figures instead of like, oh, a scatterplot.

Each of these examples illustrates the centrality of figures and tables as a crucial part of scientific communication that is fully recognized by these instructors and identified in the interviews. As Bruce Ivers said, “That's what tells your story.”

Assignment genres such as lab notebooks point serve as tools for academic socialization, providing scaffolding that leads towards professional habits of mind instantiated, eventually, through workplace writing practices. The use of figures and tables also represents a writing practice that is not exclusive to particular disciplines but identified as particularly valued in certain disciplines. But instructors also singled out particular stylistic and organizational features of writing associated with their disciplines. Like with the discussion of figures and tables, these were not tied to particular genres, but instructors emphasized these features in terms of disciplinary values. For instance, participants in two fields, business and political science, saw the use of style to convey objectivity as a crucial pedagogical goal. For instance, Pamela Sherman associated style with avoiding the perception of bias in political science.

> You really should just be coming across in a factual way that is showing your information, that is showing your numbers, that are showing your quantitative data and show those facts and let us come to our own conclusions. And if you're not doing that, it is that you are obviously showing us your own opinion, then you have failed.

In her comment, we can see that the values and expectations she is describing is not personal preference but a professional expectation that encodes particular values and particular ways of communicating within the field. For political science, this orientation is implied by Sylvan (1991) in an article discussing the strongly quantitative orientation of the field, a finding that aligns with a positivist orientation that would likely also extend to stylistic preferences.

Brian Sellers made a similar claim for writing in business. In discussing a change that he made to his course, he underlined the fact that although an assignment was taken out, he still maintained one of the fundamental goals of that assignment.

> [The] kind of writing that I expect business students to have when they graduate is good objective writing, that they don't use slang or cliches in their writing, since cliches are just a shorthand way of trying to say something. I tell them, go ahead and say it because if someone came in from another country, they wouldn't know what you're talking about if you use a cliche, so think of it that way. Then I want them to be concise, and I want them to have a structure in their writing.

The evidence that Brian is making a disciplinary claim here comes only through the use of "business" as a modifier, and in fact, another reference to his style expectations comes across as less explicitly linked to the discipline:

> I just decided what I'm looking for is, is professional writing. I'm looking for things where you don't use slang, you don't use cliches... Think through the things that you write and ask yourself, 'Does this really communicate to my reader exactly, without ambiguity, what I mean?' So those are the types of things that I've been trying to communicate to students in regards to professional writing, that professional writing is objective, and it is clear, and it is also concise.

Here by using the term "professional," Brian no longer ties the style explicitly to business students. However, his impressions were connected to his own experience writing annual reports. "You kind of learn a way of expressing things in an objective way without imposing your bias in the writing. It's stating facts, yet at the same time... without inflating the truth or inflating the negative." One could certainly question where the boundaries fall between business as a field of study and a diffuse body of workplace practices loosely defined as "business." But perhaps it is not necessary to draw clear boundaries. Some disciplines arguably work with academic research as the prototypical practice while for others the prototypical practices are

located in professional workplace settings with an academic training that points to those settings. In either case, the label of “discipline” or “field” draws the academic training towards imagined workplace competencies, and it is the instructor’s socialization in either—or both—settings that generates the set of expectations that falls under the broad disciplinary label.

4.4 Education

As both survey and interview participants noted and as discussed in the previous section, cultivating disciplinary values and reasoning was a crucial goal for writing assignments. It seems axiomatic that one’s primary disciplinary identity, and familiarity with its values, practices and traditions would come from disciplinary training, especially in graduate school, and acquired through time spent in classes and with professors, in labs and offices, with books and journals, on assignments and projects, and interacting with peers pursuing the discipline. The acculturation process could be described in terms of Wenger’s (1998) inbound trajectory, with the newcomer engaged in a period of peripheral legitimate participation as a student (Lave & Wenger, 1991).

What this means is that their experiences at the undergraduate and graduate level equip instructors to design writing assignments that inculcate the same values. They may even draw on their recollections to generate assignments or follow procedures similar to those they themselves experienced. The role of education as a formative influence was attested in interviews with eight of ten interviewees reporting that their educational experiences impacted the way that they designed writing assignments.

Two faculty, however, downplayed the role of their educational experiences, only mentioning these when prompted about them, and attributing a minor effect to these experiences. For instance, business professor Brian Sellers denied a direct relationship between the writing he

himself did as a student and the writing that he assigned his students. The point is captured in this exchange:

> LS: So, when you come back to the demands of this case study, it sounds like it's something like a tool to think with that you're giving them for the future, so where did that come from, I mean, did your own business classes in undergrad or graduate school take you through a similar process?
>
> BS: Not really.

When asked about the types of writing he did in his graduate work, Brian stated that the types of writing valued in that setting were different from the case study: “Most of what I wrote in grad school was kind of in essay form.” Asked whether he had published as a graduate student, he responded:

> Most… was not written for publication purposes although they would have appreciated it if it were ready for publication. But… it covers a kind of structure of painting a picture and what is the theory that you're using to address a problem and then how you go about researching, doing empirical research in order to give evidence for your hypothesis… and so quite a bit of that and then conclusions regarding… whether... you validated your hypothesis or not.

Asked if any of this experience influenced the writing assignments he designed for his students, he again replied, “Not really,” adding, “This paper I'm not even considering it to be quote an academic paper in the sense of a… scientific paper. When I taught organizational behavior, then I required an empirical study as a project in that class.” As we can see, Brian considered the type of writing that he did in graduate school to be “academic” in a way that the case study was not.

Because of the perceived mismatch between the two types of writing, his own writing experiences were not seen as particularly relevant.

Although Brian did not see his graduate writing experiences as informing his thinking about the writing assignments he uses in his business strategies class, other instructors did make connections between graduate school writing experiences and teaching the writing-emphasis classes on the undergraduate level. In fact, graduate school experiences seem to offer a rich resource for scaffolding undergraduate writing as well as offering productive pedagogical strategies for the writing classroom.

Evidence of the more robust role of graduate school writing comes from chemistry professor, Craig Hoffman, who noted that "as far as the writing aspect, so my first scientific writing, I don't remember doing much in undergraduate, I just don't have a recollection. In graduate school… I wrote a couple of papers… in conjunction with my advisor." The salience of graduate work over undergraduate aligns with physicist Paul Hunt's experience. He had vivid and fond memories of the professor who taught him in his undergraduate disciplinary writing course, in fact, the course that Paul himself now taught. But the way that Paul designed the course and the major writing assignment at the heart of it owed very little to his own experience as a student in the course. His professor, an active researcher and a mentor to many students over the years, made an impact on Paul, but Paul recalled little of the writing class itself. "It was a very valuable experience to spend that one-on-one time with him producing a paper together. I can't say I remember what I took away from him." In contrast, his graduate school was rich in writing experiences that made a long-term impact on his writing as a scientist and had clear impacts on how he taught his own students to write.

For instance, Paul's inclusion of LaTeX in his writing class, as already mentioned, came from his experiences in graduate school.

> Because when I was in graduate school and having to learn LaTeX on my own, it was very inefficient and just took a long time. I spent so long trying to install it and running into problems. It was just ridiculous, whereas it's the kind of thing where if somebody just holds your hand, and says, 'Look, just do this and this and this,' and off you go, it's so much easier.

His desire to spare his students the travails that he experienced and to give them a head start was one of his primary motivations for giving LaTeX a prominent place in the course.

Other interviewees also mentioned the role of graduate school as offering a sense of the discipline, and its expectations and values in conjunction with graduate school experiences. In fact, according to Austin & McDaniels (2006), graduate school, particularly at the doctoral level is crucial in socializing future professors. Survey findings here corroborated this point. Participants were asked, "Which of the following do you believe have *significantly* influenced the way that you have designed and taught writing assignments for a W-course? (Check all that apply)" (emphasis in original). Respondents overwhelmingly selected "writing experiences you had at the graduate level" with 19 out of 20, or 95%, selecting this option. In contrast, only four respondents, or 20%, selected undergraduate writing experiences. In fact, the next strongest influence mentioned were two influences tied at 35% each, namely, collegial discussions and professional development. The point is again corroborated by a follow-up question where survey participants were asked, "Which *two* of the influences listed have had the biggest influence on the way that you have designed the writing assignments for your W courses? (Check all that apply)" (emphasis in original). Again, respondents selected writing at the graduate level, this

time with 15 participants, or 75%, choosing this option, compared with four respondents, or 20%, selecting the undergraduate option. On this question the undergraduate option was tied for second place with five other choices (conversations with colleagues in one's own school or department, conversations with colleagues in English or communications, ideas from professional development, workplace writing experiences, and personal writing experiences). In other words, while graduate writing experiences were again overwhelmingly selected as most consequential, participants seemed to have difficulty determining which option came in second.

In what ways did instructors' graduate school experiences shape the way that they design and teach writing assignments in their undergraduate courses? I have already mentioned the coaching or scaffolding role with Paul Hunt's choice to teach LaTeX as a tool that students were perceived to need going forward and stepping up to be that person that "just holds your hand, and says, look, just do this and this and this." Likewise, chemistry professor Craig Hoffman enjoyed coaching students one-on-one, "going through the paper with them or finding some segment of the paper where it needs work and spending some time with them," noting that "I guess I can say I learned that from my research professor when I was in graduate school, you know."

This coaching aspect of graduate school seems to be quite salient. For example, as already noted, a graduate class in writing had an outsized impact on how Paul Hunt designed his own course, and this included his textbook choice.

> I actually took this class in graduate school from the author of that book, which was really a wonderful experience for me. I learned a lot about writing, and it really improved the way I write. When I got a post-doc, my writing ability was my strength. That's what people appreciated about me the most. And partly I credit that class... So, in that sense,

> I've completely changed the class. It really bears little resemblance other than it's still organized around producing a paper... as before.

Paul underlined how fortunate he was in having the opportunity to learn from a mentor who took science writing unusually seriously, an opportunity that not every graduate student received.

> [His] was a special class that wasn't offered very often that nobody really needed. But a lot of people jumped in because they knew Michael Morrison and his reputation for being such a conscientious teacher and a prolific writer. He’s even written things that are outside physics, literary criticism. He was an adjunct English professor at one time so, yeah, people recognized that opportunity and they jumped at it.

In addition to soaking up his mentor’s enthusiasm and benefitting from his expertise, Paul also saw his mentor’s ideas evolve.

> When I took [the course], it was notes, and it's interesting to see how the book has evolved. It still has the same basic ideas. But, yeah, that was very strongly influential because he, you know, was able to take the time to think about, you know, what broader themes were, so I still remember a lot of things that he said, whereas with Doc [in my undergraduate], you know, I'd remember the man, it's not so much the lessons and things like that, and the time we had together.

Sara Olson also talked about graduate school mentors whose practices strongly influenced her. From one graduate class that impressed her, Sara borrowed ideas from making the writing process more effective. She also asked a mentor for advice and materials for teaching the undergraduate class. “I knew she taught it… at an undergraduate level so I just asked her for her syllabus because I told her, you know, I'm teaching this course—she knows I teach at [this

institution]—so I told her I'm teaching this course, looking to make some updates and she shared with me a syllabus that she used when she taught it."

Sara was one of three interview participants who were particularly explicit about how graduate school experiences had contributed to specific teaching decisions. Paul Hunt, as we have seen, was another. At the time of my interviews, Sara was doing doctoral work while also teaching part-time, so it was not surprising that graduate school influences were particularly salient in her decision-making, but this was also true for Pamela Sherman. Pamela had completed two master's degrees and taught for some years, but at the time of our second interview, she was in her second year of doctoral coursework. She commented on how recently going through the application process for another degree made that process especially salient for her.

> And, you know, this is my second graduate program, and so I feel like I have a little bit of insight as to how to mentor students through like the GRE and, you know, the application process and obviously I had done it before but doing it again so recently makes it feel a little bit more applicable to what is happening for my students.

But Pamela also described connections between recent graduate work and course design decisions. She gave an example of a professor in her doctoral program whose assignments emphasized recent scholarship:

> And she decided that, you know, the foundational work from the 60s and 70s, yeah, that's cool, you probably need to have an idea what they're talking about, you need to be able to speak the lingo and say those names but that's not where I want to focus. I want to focus on what is trending right now, I want to focus on what are the debates in comparative politics at this moment, not what the debates were in the 60s or 70s. You know, you can read about those in your own time. And so hearing about that really changed my thought

> as to, you know, how much I should be incorporating of this trending work, not because, you know, I just want to be up with the newest and greatest, but because I want to encourage my students to think outside the box of what those older debates were, you know.

In other words, Pamela took an approach from a doctoral professor, the emphasis on recent work in the discipline, and turned around and more or less immediately applied the idea to her undergraduate course planning. In fact, Pamela mentions several other ideas that she got from the same course. The professor introduced the class to archival research in the discipline and assigned students to do article reviews. “So, she sent out on like academic Twitter, you know, a call for people that were looking for feedback on their papers before they attended conferences or put them in for submission to journals, and so… she walked us through that process.” Pamela concludes, “All of it was building these practical skills that are necessary to be successful in the field, and it really changed my perspective as to how can I do that for my students. I hope I'm doing that with my writing assignments.”

Another idea that came from Pamela’s recent graduate work was to give undergraduate students the opportunity to build on, recycle and reuse papers as students moved from one class to another in the curricular sequence, as can be typical in graduate work. This experiment conflicted with the typical practice in her department, which had typically stipulated that students do entirely new work from one course to the next.

> It helps me to think about how my previous work can still be applicable and think about how it's not wasted time and think about how I can bring in and incorporate it in. As long as you tell them that you're doing it, it's fine, you know. So, thinking about how to take what you've already done and make a larger, more impactful- That's what I'm doing now,

> and I've talked to my department and they're not so sure, they're like, 'Well, students need to be producing,' and I'm like, 'I certainly agree, but if they have produced then they can bundle it.'

Pamela's desire to bring in a new practice inspired by her graduate work shows us that at times, influences will come together to amplify each other or intertwine with each other—or, at times will conflict with each other, as here where Pamela's takeaways from her graduate school experience conflicted with the practices of her department.

In addition to applying instructional strategies that they learned from their professors, a couple of participants mentioned bringing theories learned in graduate school down to the undergraduate level. Brian Sellers, who downplayed the influence from his graduate school writing experiences, mentioned that he did find the theory valuable. "I bring in some theoretical concepts in this class that are not necessarily- that aren't covered in the book... So, I try to use those theoretical concepts to amplify the subject." Likewise, Sara Olson stated that being in graduate classes inspired her to require that her students bring theory into their final projects. In the first interview, she talked about changes that she planned to make in the course moving forward.

> I'm probably gonna take out the application to practice and instead, have a theory application section, but in the last six or seven years I've been teaching this course, I've had an application of practice, but I am now more under the influence of sociology instructors and so I'm really wanting to bring that theory back in, and it's supposed to be a sociology course, and although I'm teaching mostly nursing students, I am feeling like I'm doing a disservice to not have theory in there, and so I'm gonna start putting that back in. Yeah. So, this's been influenced by my own training in my sociology program.

It is not surprising that instructors would bring ideas back from their graduate training. But, as already mentioned, graduate school as an explicit influence seems to be particularly salient for interviewees for whom the experiences were quite recent. This finding does not prove that graduate work has little impact for others but suggests that as time passes their experiences as students get folded into their experiences as instructors. Their role within the activity has changed from novice to coach. That is, repeating the coaching role from semester to semester is likely to make the coaching perspective more salient as memories of graduate school experiences recede.

As already indicated, undergraduate writing experiences were decidedly less consequential for most instructors. Pamela Sherman proved an exception here, as she explicitly reported on the role of her undergraduate experiences in informing the way that she designed writing assignments. In describing the assignments that she chose to include in her classes she noted that “these are the kinds of assignments that I was always taught to do as an undergrad as well.” While Pamela referred to her training several times, sometimes it was less obvious whether she was referring to undergraduate or graduate work, or quite possibly both. Here’s an example:

> You know, I think there've been a number of things that I have maybe unconsciously done in referring back to my own training, and thinking this is just what political science does, you know, this is just how we're trained, and it was helpful, and it made me sharper, and I want my students to be as sharp as possible, and, you know, I take recommendations from my students all the time, but I also refer back to what my professors did, and I have a lot of admiration for what they did, and so I tend to take a few tools from their toolbox as well.

But in other cases she did reference her own undergraduate training, as, for instance, when she was explaining why she included both a book review and a research paper as writing assignments in her course.

> But that's how I was trained, and so I feel like if I were to go against how I was trained, it would almost be, what was the point of my training? You know what I mean? So I- all of my political science professors always assigned a research paper and it was usually in the 15- to 20-page bracket, but I think 12 to 15 pages suffices for my students, and I think it is a reach for them still and without being very overwhelming, and so I wanted to kinda find that that balance and then like I said, like, it was part of my training to have to understand implications, to have to understand recommendation, if you couldn't, you are missing something fundamental to your education in political science and to not be able to kind of discuss and that framework you were lost.

The first part of this discussion relates to the word count expectations for the research paper at the undergraduate level. She compared what she experienced with what she did in her own classes, defending her decision to slightly lower the word count but implying that she was expecting a comparable rigor to what she experienced in her own undergraduate courses. When she shifted to a mention of implications and recommendation in the quote, she was referring to the book review assignment and pointing to the rhetorical moves within the genre that she carried over from her experiences with the assignment genre as an undergraduate.

In one area Pamela’s undergraduate experiences and the expectations of the students in her current institution came into conflict. She learned that students expected teachers to provide rubrics for how assignments were to be graded and initially Pamela pushed back against this, preferring a more organic style of learning to write.

> When I walked in, when I didn't have rubrics, they said all their teachers gave it to them, where were my rubrics? And so it was made clear to me from my students that I wasn't providing essential materials for my first semester and so that was kind of how I got the message that they were used to operating, you know, with a rubric and even, you know, when it came to midterms and finals if I didn't clearly lay out, you know, what I was looking for in a question even just a short answer me saying please thoroughly answer the question, you know, 3 to 5 sentences might be appropriate, no, you know, you were supposed to lay out exactly what you're looking for, and I was just not schooled in that way to think that you had to give them almost like- almost the answers of what you were looking for, and I still don't do that, you know.

Pamela explained the logic for not having rubrics.

> It's a little bit of a change for me to think that students should lean so heavily on them, because for my time if you had questions you went to the professor, you asked those questions, and you got the guidance that you were looking for versus simply thinking that that information was going to just be provided to you without asking. Does that make sense?

Developing a certain kind of initiative was one of the values that her professors and now Pamela particularly wanted to foster, and she worried that giving students rubrics too early shortchanged that process.

> I think in many different fields that ability to be a self-starter, that ability to take initiation and just go and realize, hey, I don't have all the answers, I'm gonna start with what I have and then I'm gonna go seek out some more answers, that's really valued, and I think when we teach our young people to be comfortable with where they are and not necessarily

> comfortable with going and getting answers needed, I think we make them too comfortable, we teach them that, hey, people will come to you and tell you what you need to know. And that's not accurate. I think we're lying to them.

Pamela's references to her undergraduate training were not the only ones in the interview data. Two other instructors also referred to their undergraduate experiences. Religion professor Rick Erhard also commented on aspects of his undergraduate writing experience that have impacted the way he taught writing with his students. He described a demanding mentor that he appreciated while doing his undergraduate work in his home country. "He meticulously graded our papers and… documentation had to be perfect: format, margins and everything. So, I have kind of put the form inside into my assignments as well."

Sara Olson also referred to her undergraduate experience when she mentioned using her undergraduate experiences to encourage her students as they get used to writing in an unfamiliar genre.

> I don't think I necessarily share stories with them so much, it's more so, it comes in the form of… encouragement through emails… or through… office hours when they're struggling with the writing assignment. And, you know, I tell them… the first time that I wrote a literature review back in my undergrad it took me… all semester long just to get a few sources and figure out what I was writing about, but now I write literature reviews… all the time... It's part of my job now, I just- I do it all the time and it comes much more naturally, like talking about my many experiences comes more in the form of, like encouragement, like, 'Hey, I know this is a new process for a lot of you. I was there too as an undergrad, you know. This is something that is part of professional development and you can, yeah- you can get there, someday, too.'

This mention indicates that Sara's undergraduate experience was a resource that she drew on as she coached students. However, she did not mention it as an input for including or designing the writing assignment. She inherited both the course and the assignment. Although she made changes to the assignment and the instructional scaffolding, she retained the literature review genre as the prototype for the major writing assignment for the course.

The data from both the survey and the interviews indicate that educational experiences did have an important impact on these instructors as they designed writing assignments, and that graduate training was overwhelmingly more important than undergraduate experiences. As a final caveat, however, it is worth noting that in some mentions graduate school was folded in with the career or profession, for instance, "in job or grad school," and that some experiences, like internships or post-docs, are transitional experiences and thus hard to classify.

4.5 Lived experiences

Obviously, a potent source of experience that shapes design, and even more, redesign, is experience in the classroom, with prior cohorts of learners in the same course. While only 20% of survey participants mentioned student input from courses as a "significant" influence in shaping the design of writing assignments, participants probably took this to mean explicit suggestions and course evaluations, a tool that I will examine briefly in the next chapter. In fact, design decisions are likely impacted more by instructors' ongoing observation of the teaching process and student engagement and performance during the semester rather than summative feedback at the end. Sara Olson compared the two sources of input.

> Honestly, it's more me looking at the course and seeing what needs to be done or learning something new or seeing what another professor does in their course. So usually it's not student feedback, 'cuz most of student feedback, like if it is any suggestions, it's like, less

> reading or less, you know, less assignment. And sometimes it… makes sense, it's like, oh, when there's a major component of the research paper… let's have a lighter week and, you know, that's a suggestion that makes sense to me… so yeah having feedback like that is helpful. But usually it's kind of my own evaluation of how the course is going.

A number of interviewees also mentioned examples of specific decisions that they had made based on such observations. Just to cite one example, in the second interview with education professor Ellen Deere, she described changing the length of the philosophy statement to bring it into alignment with what students were actually doing.

> I had it in my syllabus as three pages, but I'm finding students really can't stay within that three pages, so I actually put it at five pages. And so, I made that change in the instructions to allow for that rather than trying to force them into something that was probably not realistic. And… most of the students are writing five plus. Very few were in that category [of three pages]. So, I thought I was being maybe restrictive to some and finding it more work because of defining as three pages.

Clearly, reflections on practice have an ongoing effect on decision-making for those practices. It is axiomatic that in any type of professional practice, professionals are reflective about what they do and deepen their expertise through this reflection (Schön, 1983, 1987). Observation and reflection will always be a rich input for adjusting and improving practices.

Some instructors also had teaching experiences outside of the current institution, with different groups of students in different institutional settings. None of these were explicitly cited as impacting the design of a current writing assignment, but several participants mentioned these experiences as biographical facts. The closest anyone came to connecting these experiences to

their current practices was Craig Hoffman, who returned to his undergraduate institution for his first job after completing his graduate work:

> So, I worked with professors that I had and so that influence continued, and I was there for ten years. So that's- that really was formative for me. I taught at [name of another institution] for a while, for about seven years, and you know, there was influence there as well, little bit different style, but, you know… positive influence.

One influence within academia but outside the current institution, however, was professional conferences and exchanges. This influence was ranked in second place by survey participants with 35% choosing it as a "significant" influence, tied with collegial exchanges in their current department, and 20% choosing it as one of two "most consequential" influences, though here tied with five other influences. Not many interviewees discussed the direct role of conferences as a source of ideas for teaching writing, but Ariana Harris did. As the only person in her department who taught writing-emphasis courses, she had semesters where she taught several writing-emphasis classes at the same time, and thus, even with classes capped at 25 students, it was not uncommon for her to have papers from fifty students. Not long before our second interview, she had attended a professional convention, where she looked for advice about the grading load.

> Yeah, I think I went to that convention and… And yeah, I just got ideas, I took notes... The other professors gave me ideas on how to make it doable so that I'm not feeling burned out. So, they told me to maybe not do ten-page papers and instead do smaller ones.... I went to sessions about art history, how to teach art history with the more interactive approach and yeah, the writing across the curriculum and art history. It was so

> helpful. I'm going to all [this particular convention] from now on just to keep in touch with what they're doing.

Another interviewee also mentioned convention attendance but more from the perspective of presenting her own scholarly work. She included going to “teaching and learning conferences,” but did not mention getting ideas for teaching the undergraduate writing course. However, Ariana’s example and the survey data affirmed that these professional exchanges can be a resource that informs the design process.

Only a few interview participants mentioned professional experiences outside of academia as playing a role in how they taught writing. The main one has already been mentioned, namely, Brian Sellers’ experience with writing annual reports while working as an accountant. However, the education professor referenced her experience with educational administration as a resource in helping her plan for a graduate course in facilities management, and two mentioned academic-adjacent experiences. Physicist Paul Hunt mentioned involvement in two post-docs before being hired for his present position, and art historian Ariana Harris mentioned a museum internship. For Paul, the post-doc did play a role in shaping the way he thinks about and designs his undergraduate writing course.

> After graduate school I had two post-docs. And I started to realize that writing was my strength, my professional strength, and I had very little coursework in writing. When I was an undergraduate, I didn't understand how important writing was to the discipline of science, which, you know, is ridiculous. Science students should gain an appreciation in the course of their studies for the role of writing in learning science, that whatever they do with their science degree, writing will play a prominent role. If they're not able to share their knowledge, what good is it? So, in my postdoc years I started seeing how this

> really is something that needs to be emphasized more. So, this semester when I introduced scientific writing in our first session, I told them, ‘This may be the most important class you take in your major even though it's only one hour because this may be the skill that … sets you apart, that makes you the greatest asset in your workplace.’ The ability to communicate technical information is something that can't be taken for granted.

Paul’s case shows the juxtaposition of several formative influences within the discipline, but his graduate school experience was pivotal, as we saw earlier. Reinforcing his graduate school experience was his experiences collaborating with others during his post-docs and observing the crucial importance of scientific communication in that professional space.

I think it likely that with a larger sample of participants we would see more examples from workplace or professional settings. With the limited data from this set of interviews, we can at least note that these influences do play a role for some.

Other life experiences outside of academia or the workplace also had limited relevance but were not entirely absent. The case study at the beginning of the chapter mentioned how Craig Hoffman had applied ideas about literacy development gleaned from his wife, an early childhood educator, and applied them by analogy to the development of professional literacy for his students. In the first interview, he explained.

> I'm trying to develop some classroom activities or lecture part of the course activities that bring [more reading] in and it- philosophically that goes back to something that I believe… and it's based on actually my wife's master's degree program she did… on whole language, teaching children to read and write as one activity… I really bought into that. I just- I saw what she did with her kids. She had some kindergartners. It just made a

> lot of sense to me to make those much more one experience than two separate experiences. It's characterized by permitting students to do a lot of learning to write… There's a word for it but… less emphasis on how to spell everything and not get your word- letters backwards, less emphasis on that and more on expression, trying to not let the technicalities of writing interfere with the expressive part of writing while still training students how to get their E's right, you know… but letting writing be writing, I guess. Anyway, so for me, if you're trying to write professionally and you… don't know how to read, you know, it doesn't make sense… it would be difficult in this course because the content is rather prescribed to actually have them read research papers in this particular course, but I'm gonna do the same type of thing with the textbook. I'm gonna let the textbook… play a much larger role in the course

As it happened, Craig reported in the second interview that he had not designed a pedagogical intervention to implement this idea. However, he remained animated by it.

> Well, here's the thing that for me I think is critical. I teach writing, but our students do virtually no readings [in scientific] literature, and that's where that other question you had asked earlier about, you know, did- was I able to incorporate reading into the thing. So, the whole language idea influences me that to really understand scientific writing you need to be reading scientific papers… you know in a way it's kind of commonsense, so but I, you know, I was very interested in my wife's work, you know, when she did that. I was intrigued by it, and so I saw what she did. She had a kindergarten class, and… so it was very simple kinds of writing, you know, but it was just very interesting to me, her project. And so, there's some influence there for that. I think about the same thing with

> music. We teach people how to read music, why don't we also teach them how to do a little composition at the same time, you know?... That's… her influence on my thinking.

While there were not a lot of examples in the interview data of influences from outside the realm of professional practice or higher education, this example suggests that at times instructors do find fruitful connections with other domains of practice.[11]

Another participant that mentioned life experiences as relevant to her thinking and practice was nursing professor Robin Nelson. Her research projects, typical for her field, tended to be collaborative. The research-based projects that she assigned were also designed to be collaborative. While she did not indicate that pairing students to complete the projects was her own innovation, she did note her commitment to this feature, drawing a connection to her upbringing:

> I grew up in a nursing home, and so we had the team care conference every week. So it was all the activities, social work, nursing, you know, whoever, all the different department people were there and talking about this patient and how can we provide a holistic care, and I think that's where I am so passionate about interprofessional collaborative practice because I grew up with it and it's essential.

Robin’s father was administrator and her mother director of nursing in a nursing home, giving Robin an early sense of the importance of collaboration in this professional setting, an impression that shaped her own professional values. Experience is a source of innovation and generator of beliefs and values that underlie the design process. In some cases, this leads to new interventions while in others, as here, it reinforces ongoing values and practices.

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[11] Another interpretation might be that it is another example of teachers influencing other teachers, albeit reaching across the wide gap between early childhood and university levels. Whatever the case, the fact that Craig can transfer ideas from this other practice space is interesting. It would be interesting to know whether there are factors that facilitate this leap of imagination–the closeness of the spousal relationship, personality traits, etc.

Most interviewees gave biographical details during their interviews. Usually they did not draw explicit connections from experiences to values or beliefs motivating design decisions. The operation of historical body and development of habitus means that all of these influences are folded together to create a reservoir for practice. Identity and its formation, the history-in-person, play a role as an individual actively affirms membership in a particular collective, adopts its beliefs and borrows its practices. In all of these ways, personal history generates tacit and conscious memory, which shapes practice through habit and reflection.

4.6 From designs to design influences

Moments of design are recurrent and in each moment of design and redesign, the designer draws on a variety of influences, some of which are accessible to conscious reflection. Think aloud protocols allow the investigator some access to the reflective process. Interviews offer another reflective opportunity, which draws on these earlier moments, but are also capable of reframing motivations within a shifted narrative. Nevertheless, at this point, it might add some value to go back to the specific assignments that interviewees discussed and see what types of influences seemed to have played a role. Table 4.10 looks at 12 major assignments mentioned by interview participants and uses quotes from the interviews to look at the motivations and influences mentioned for that assignment. It is difficult to strictly distinguish the initial motivating factor, why the assignment is included in the course, from the other influences that played a role in its design but given that many instructors inherited the assignment it is useful to at least tentatively distinguish these two. I do that in columns two and three. Column 4 offers some summarizing themes, noting the types or categories of influence that seem to be playing a role.

Table 4.10

Assignments and their Design Influences

Assignment	Initial motivating factor(s) for design	Influences	Themes
Philosophy paper (education)	*Inherited assignment as typical assignment in field:* "standard education requirement at many universities that it's not unique to [us] …"	*Her own personal experience with a philosophy document has corroborated its value* "I have one, for example, I've had it for years and I just go back in and change where I've shifted and added people that I have done additional readings from that have impacted me, I add some of those things into it… I've kept copies of philosophy statements that I developed a long, long time ago."	● Disciplinary practices ● Student futures/professional benefit: document itself ● Personal professional experience
Museum journal assignment; research-based essay (art)	*Based on typical practices* "This guide should help you navigate any work of art or object in a museum..." "…this is very basic to art history… actually. I'm just putting the spiritual component as an add-on."	*Personal experiences with beauty and spirituality motivates her to include the spiritual in art* "…just wanting to combine this spiritual part of art back into it." *Professors observed students struggling with faith and concluded they needed to ground students in Christian worldview* "Our students not only… need to be good artists, but that they need to think very deeply about the content of their art and how that content will hopefully bring hope, Christian worldview, be very intentional about having a purpose that brings a positive message to the world."	● Typical practices in discipline ● Department values and goals ● Personal experience > value: Linkage between art & spirituality
Art theory timeline & manifesto (art)	*Designed to fulfill need discussed within the department* "[It] is the culminating course because we really as a department want to make sure that they get the Christian worldview… we as a department realized we needed to address philosophy and the Christian worldview…"	*Personal experiences with beauty and spirituality motivates her to include the spiritual in art* "…just wanting to combine this spiritual part of art back into it." *Professors observed students struggling with faith and concluded they needed to ground students in Christian worldview* "Our students not only… need to be good artists, but that they need to think very deeply about the content of their art and how that content will hopefully bring hope, Christian worldview, be very intentional about having a purpose that brings a positive message to the world."	● Department values and goals ● Personal experience > value: Linkage between art & spirituality

Table 4.10 Continued

Assignment	Initial motivating factor(s) for design	Influences	Themes
Book reviews (political science/ history)	*Based on typical practices in the discipline* "[Research paper and book review feel almost predestined as elements of course] They are.. that's how I was trained"' "And these are the kinds of assignments that I was always taught to do as an undergrad as well"	*Experiences during her own education fostered disciplinary expectations of reading and writing expectations* "These are the kinds of assignments that I was always taught to do as an undergrad as well" "Even in my master's program it was normal for us to have to read, you know, supplemental material… I remember even in my undergraduate program for political science I remember that we were assigned supplemental reading there and we would discuss the chapters and then have to write, you know, a short paper over the reading."	● Professional benefit/student futures: thinking & communication approach ● Typical practices as observed in her own education ● Educational experiences as disciplinary training
Research-based essay (political science/ history)	*Based on typical practices in the discipline* "[Research paper and book review feel almost predestined as elements of course] They are.. that's how I was trained"' "And these are the kinds of assignments that I was always taught to do as an undergrad as well"	*Experiences during her own education fostered disciplinary expectations of reading and writing expectations* "[Research paper and book review feel almost predestined as elements of course] …all of my political science professors always assigned a research paper and it was usually in the 15- to 20-page bracket… So I would be doing them a major disservice if I didn't if I didn't include that in some way, maybe one of the writing [assignments]"'	● Professional benefit/student futures: thinking & communication approach ● Personal educational experiences (undergrad & graduate)
Short essays (business)	*Adapted idea from English chair to meet specific pedagogical and efficiency goals* "I figured… that's a structure that is taught… in their beginning classes in critical thinking… and I expect them to be able to communicate in writing as well as verbally…" "It also helps in being able to assess them on a somewhat equal basis..."	*Personal experience borrowing ideas from English chair for grad school writing* "[model introduced to him as a graduate student in] my MBA…We'd talked about and… so, it just… paid off for me in writing since then." *Workplace experience demonstrated expected style of writing for business* "One of the things that I did when I was in the public accounting was that I would write the management and annual reports for companies. We were all required to do it anyway, but you kind of learn a way of expressing things in an objective way without imposing your bias in the writing."	● Reflecting on pedagogical goals ● Personal and teaching experience: Value of particular writing model ● Workplace experience > writing style: Objective reporting

Table 4.10 Continued

Assignment	Initial motivating factor(s) for design	Influences	Themes
Capstone paper (business)	*Inherited assignment* "It was kind of handed to me from the previous professor, but I know where he got it… it is included in kind of an appendix area of the textbook… it's probably morphed quite a bit since."	*Workplace experience demonstrated expected style of writing for business* "One of the things that I did when I was in the public accounting was that I would write the management and annual reports for companies. We were all required to do it anyway, but you kind of learn a way of expressing things in an objective way without imposing your bias in the writing." *Sees project as providing a heuristic for identifying problems and generating solutions (but it is not clear if this conviction comes from workplace experience, experience with the course or both)* "It is a step-wise set of logical progressions... You come to that problem and then address the problem..."	● Typical practices in discipline ● Student futures/professional benefit: Thinking tools ● Workplace experience > writing style: Objective reporting
Research report (physics)	*Inherited assignment* "…we wanted our students to get experience writing a science paper…"	*His own personal experience with writing has demonstrated its importance and offered tools, strategies that he would like to pass on* "I… took this class in graduate school from the author of that book.... I learned a lot about writing and it really improved the way I write… in that sense, I've completely changed the class." *His experiences reinforced the importance effective communication as crucial in science, and the need to teach specific tools such as LaTeX*	● Personal experience (grad school, post-doc) > importance of effective writing in science ● Professional benefit: research process & product ● Typical practices in discipline
Lab report and/or research report (chemistry)	*Inherited it* "I inherited it, so some of the things I'm saying are philosophy that I have been told by my department chair..." *Expectations are that students can use lab data to build reports* "…the next step would be to take that information and formalize it in a report..."	*Faculty in his undergraduate program demonstrated how to teach science by breaking it "into pieces that were easy to manage"* "The teachers that I had there [=UG] were very good… I liked the way they broke the pieces, you know, the course down into pieces that were easy to manage, I mean it took a lot of effort, but it was conceptually easy to figure out what to do, you know, and so it was very clear."	● Professional benefit/student future: moving from lab data to written reports ● Mentors: Undergraduate education as model for his pedagogy

Table 4.10 Continued

Assignment	Initial motivating factor(s) for design	Influences	Themes
Proposal for thesis (biology)	*Created assignment within new courses in new track* "in most… universities you go to get a biology degree, and… you write a proposal, you do the research… then write it up in thesis and you present it… And so, I divided up into three different classes..."	*Observation of other universities* "So in most state universities… the traditional biology degree is you write a proposal, you do the research… then write it up in thesis and you present it. We didn't have that."	● Student futures/later coursework: crucial scaffolding process in research track ● Current practices in discipline
EBP paper (nursing)	*Inherited course with assignment driven by accrediting guidelines* "Following best practices as articulated in policy from American Association of Colleges of Nursing required bachelor's students to learn how to bring research to bear on nursing practice" (AACN essential, listed in syllabus):	*Personal experience of falling in love with research after taking on course* "Then I fell in love with it, absolutely fell in love with it. And it is my love, my passion, if I'm having a bad day I will just go and write an abstract for the next conference… I just love all the aspects of it now." *Also mentioned early life experiences that reinforced the value of collaboration* *Summer institute experience reinforced goal of ensuring biblical connections* "…all of my courses have been through summer institute so I have a biblical foundation of faith and learning for every single course I teach..."	● School/department goals drawn from professional organization ● Personal experience: fascination with research and value of collaboration ● Institutional resource: Summer institute
Literature review (sociology)	*Inherited course, paper* "This is then kind of like an ongoing, = paper that I've first received from, I think, the original paper outline, er, research guide, was from [name of former prof]… So basically it's introducing students, uh, to the literature review process."	*Current coursework has connected her to disciplinary theory, inspiring her to align course more closely to discipline and given her pedagogical strategy* "[I am] now more under the influence of sociology instructors and so I'm really wanting to bring that theory back in… I am feeling like I'm doing a disservice to not have theory in there." *Inventor of the original course was a mentor whose influence has been pervasive* "I think, the original… research guide, was from… my mentor when I was an undergrad there and a grad student at MSW program…"	● Typical practices of discipline: Theories ● Personal experience (grad school): Writing as process ● Mentor: Interactions, modeling for pedagogy

The first assignment in Table 4.10, the philosophy paper, demonstrates how different influences interact in the design of a particular assignment. First, the paper is a typical assignment genre in the discipline and the professor inherited the paper when she took on the class. But the professor articulated the value of the assignment in terms of student futures and described the way that the genre or a variation of the genre served her as a professional tool in her own career as an educator. As previously mentioned, this assignment was unique in that the instructor assumed that the document itself, not just the thinking or the skills that it enabled, could be relevant to students as they graduated and moved into the next stage of their careers. But we can see that three motivations–current practices in her field, contemplation of student futures, and reflection on her own history–intertwined in shaping and reinforcing the use of this assignment in this course.

The museum journal assignment and the research-based essay that it ultimately, if indirectly, led to likewise brought together several influences that were all salient as part of the instructor's design thinking. The steps that students were taught to use in analyzing and writing about art formed an "integrative relationship between writing and knowing" (Carter, 2007, p. 286) that is typical of art and analogous disciplines. But both of the assignments had also been designed to encourage the students to see how art captures spiritual truths grounded in a Christian worldview. This feature of the assignment aligned with the worldview commitments of the institution and department, but more consequentially, they reflected a passion of this particular instructor, who articulated connections to her own personal story, her own lived experiences.

A final example to mention here points to the next chapter. Like in the case of art professor Ariana Harris, Brian Sellers emphasized the way that the case study, the major writing

assignment in his business strategies course, fostered particular habits of mind, in this case, a particular problem-solving framework. This naturally implied attention to futures where these students would apply those skills. Further, Brian imagined that future in part because he had experienced it, and his own past workplace writing gave him insights into the style and structure that would be expected in those settings. Once again, in designing and redesigning the case study assignment, Brian drew on all of these influences.

4.7 Interacting influences

A key assumption in this study is that design thinking is entangled with other practices, objects and circulatory pathways in a complex system or ecology. This complexity makes it impossible to accurately measure the impact of one influence against another. To make a minor foray in this direction, however, we can go to the survey as evidence to see how participants perceived the impact of different influences on their design thinking. Survey participants were asked, "Which of the following do you believe have *significantly* influenced the way that you have designed and taught writing assignments for a W-course? (Check all that apply)" (emphasis in original). As discussed earlier, graduate school writing experiences were ranked highest, but we can see the other ranked responses in Table 4.11.

Table 4.11

Significant influences on design and teaching of writing assignments

Rank	Influences as worded on survey	N=20	%
1	Writing experiences that you had at the graduate level (masters or doctoral)	19	95
2	Collegial exchanges within your own department or school on this campus, including mentoring relationships	7	35
2	Professional development outside of the institution, such as attendance at conferences or workshops, or gleaning ideas from reading professional journals	7	35
3	Consultation with colleagues in the English or communications department on this campus.	5	25
3	Writing assignments created or encountered while teaching in another institution	5	25
4	Writing for public or personal reasons (including private journaling, personal projects, or for publication)	4	20
4	Innovative assignments after brainstorming about course goals and/or disciplinary objectives	4	20
4	Student input from previous experiences teaching the course or a similar course	4	20
4	Writing experiences you had as an undergraduate	4	20
5	Writing within a workplace or professional setting (non-academic)	3	15
6	Workshops or training administered by institutional writing committee on this campus	2	10

From the survey, we can see that professional interactions, whether in the department or beyond, also played an important role for participants, although the impact of these was overwhelmingly overshadowed by instructors' graduate school experiences. Once again, we can see that undergraduate writing experiences were weighted as relatively unimportant, even though these would seem to be among the most relevant, given that instructors might have taken similar classes at more or less the same age as their students and, in many cases, followed the professional path imagined for their students. Nevertheless, a range of more recent professional experiences trumped their own experiences at the same level of disciplinary socialization.

Another surprise, perhaps, is how unimportant workplace writing seemed to be in the data that was collected. One reason could be that a number of instructors had spent more time in academic settings than in other professionally-relevant workspaces. This study cannot answer whether this sample was typical in that regard. My guess would be that there is frequently some

disconnect between the vocational experiences of faculty and the intended career paths of students, at least in some disciplines, especially if academic positions are underpaid compared with other career paths. If instructors have limited experience in the professional settings where students are likely to land, they could be losing a valuable source of input as they design writing assignments.

It would be interesting to design a study that zeros in on disciplines that use writing in clear-cut ways in professional, non-academic settings, and that have a large number of faculty with recent experience in these settings. In such a case, would these workplace experiences be brought more directly to bear on the design of writing assignments? Or would writing assignments still be to a great extent pedagogical exercises designed to scaffold the habits of thought rather than genres that simulate workplace practices? Dias, Freedman, Medway & Paré (1999) looked at writing practices between courses in public administration, business management, social work and architecture and the matching workplaces and discovered large differences rooted in the fact that writing is profoundly situated. But that does not mean that instructors who move from such workplaces into teaching would lose the insights from those workplaces as resources for designing writing assignments. It might be valuable to delve more deeply into the circulation from the workplace back into academia. With only 20 participants of whom I imagine only a few have made this return journey, I do not think this data can shed much light on the question, but it remains an interesting one to ask.

In an effort to shed a stronger light on the issue of weighting, we need to turn to another survey question. In this case, participants were asked to indicate which influences in the list represented the strongest influences. To do this, they were asked to select the two that “have had the biggest influence on the way that you have designed the writing assignments for your W

courses." Table 4.12 lists these rankings. Once again, these findings showed graduate school writing with a sizable lead over the other contenders.

Table 4.12

Most consequential influences on design and teaching of writing assignments

Rank	Influences as worded on survey	N=20	%
1	Writing experiences that you had at the graduate level (masters or doctoral)	15	75
2	Collegial exchanges within your own department or school on this campus, including mentoring relationships	4	20
2	Consultation with colleagues in the English or communications department on this campus.	4	20
2	Professional development outside of the institution, such as attendance at conferences or workshops, or gleaning ideas from reading professional journals	4	20
2	Writing experiences you had as an undergraduate	4	20
2	Writing for public or personal reasons (including private journaling, personal projects, or for publication)	4	20
2	Writing within a workplace or professional setting (non-academic)	4	20
3	Workshops or training administered by institutional writing committee on this campus	3	15
4	Innovative assignments after brainstorming about course goals and/or disciplinary objectives	2	10
4	Student input from previous experiences teaching the course or a similar course	2	10
4	Writing assignments created or encountered while teaching in another institution	2	10

Again, professional interactions mattered but in this case tied with many other influences for second place, including undergraduate writing experiences. In fact, it appears that no other contending influence attracted more than ten or twenty percent of the participants, so we really cannot draw any conclusions about second or third place rankings, especially with only twenty respondents in one institution. It appears that all of these influences played at least a minor role for some instructors.

Looking to the interviews does not add much further information. Interviewees did not typically comment on which influences played a greater role in any specific design moment, but there were a few cases. An exchange from Sara Olson will suffice to demonstrate.

LS: This time you're mentioning revamping the course completely, is that mostly from the fact that you took the teaching sociology course, or is this partly because it's been coming for a while?

SO: Mostly from my teaching sociology course.

LS: So it was inspirational in terms of giving you ideas?

SO: Yeah, definitely

In this instance, it is clear that a particular recent experience, a pedagogy course, had catalyzed design changes for Sara. She was the only participant who mentioned a pedagogy course, but we can imagine that such a course would have obvious relevance and transfer value, and thus it is not surprising that for Sara it stood out from other influences. But to capture the impact of weaker or more diffuse influences would be much more difficult—if possible at all. To the extent that ranking influences by their strength is even possible, it would probably require greater proximity to the moment of design, perhaps through a think-aloud protocol. Even then we should not assume that influences not mentioned by a reflective practitioner are absent, but merely less salient in the moment.

For instructors, the design moment starts with pedagogical goals, driven by disciplinary values and working towards a program of disciplinary socialization informed by an imagined future for students as inbound members of the community. The experiences that make up the historical body impact the design thinking. They don't necessarily lead to a specific outcome in the design but instead undergird beliefs and point to practices. Implementing the design with a specific cohort of students provides another layer of experience, generating the impetus to redesign assignments and courses for yet better outcomes. But all of this takes place in a specific setting, and the environment talks back. Institutions, too, bear histories in themselves, histories in

practices and collective identities. It is difficult to distinguish the influences that emerge from personal experience, including disciplinary experience, and those motivated by institutional structures and policies, especially since the timescale of the instructor and the institution have overlapped to some degree. The data in this study concur with Polk's (2019) finding that design decisions are certainly motivated by "pedagogical intentions" but "institutional and personal motivations [also] exercise significant on influence on decision-making" (p. 86). The influence that institutional structures have on instructors as designers is a focus of the next chapter.

CHAPTER 5

THE ECOLOGY OF DESIGN: ASSEMBLAGES SHAPING PRACTICE

Students in Paul Hunt's course in writing in physics find their experience mediated through a very different interface than a history or English major. Imagine a senior English major who sees black text progressing across white document filling the screen of her laptop as she types a paragraph into her Google document. Later, she shares the document with her professor who views it on another screen and types in some suggestions, color-coded to distinguish the professor's words from the student's. For a physics student working on a senior project, such as those taught by Paul Hunt, the screen looks very different. For one thing, it is divided into two quadrants. On the right-hand side of the screen is the formatted draft document (in "publishing view," black words on white page), but the left half of the screen is the raw LaTeX file, a text file which begins with lines of LaTeX code. The code, unintelligible to an English professor like me, generates pages that align with the professional style standards of the discipline. Once these codes are specified, the writer can focus on composing academic prose in plain text while also adding the proper tables, figures, and special characters necessary to effectively communicate knowledge in physics. By the time Paul's students undertake their senior project, they have a growing familiarity with LaTeX. Even so, a crucial objective of the research course is for students to gain a level of mastery with LaTeX. Screens, keyboards, alphabetic characters, formatting conventions and other material and semiotic tools mediate the writing practices of the English major, but few of these are typically noticed or explicitly taught in upper division English courses. LaTeX, in contrast, is a tool that has become highly visible in Paul Hunt's design process. Tools and other material objects are ubiquitous in all practices but can become invisible in habitual practices, often forming part of the black boxes to which Latour (1987)

refers. When first recruited for the design or at moments of disruption in practice (Roozen, 2016), the pieces and parts of these black boxes may become visible. In our interviews, Paul discussed his decision to bring LaTeX into the practice space, a moment of (re)genesis and also a positive disruption. However, it is possible to conceive of a future instructor taking on the class with the LaTeX interface fully integrated into the instructional practice and thus taken-for-granted, almost as invisible within the practice as digital composing is for an English major. In both cases, however, a variety of mediational tools structure literate practices, and at some point in time, represented a design decision.

When asked how he came to teach the writing-emphasis course, Hunt recalled, “Well, you know how it is in committee meetings if you pipe up a lot then you end up volunteering yourself, and I didn't mind volunteering myself. My colleagues were happy to let me to take a turn at it.” This quote brings into view the other members of the work team as elements in the larger system. Like material and semiotic tools, other people and activities in an organization circulate through and constantly restructure the system. Social structures like departments and are reifications as much as mediational tools are. These, too, mediate and structure practice within the larger ecology not just through their intrinsic functions—generating policy, for instance—but also because individuals reference them as objects within the system, “the department decided.”

I do not highlight Paul Hunt’s case because it is special. Although his use of LaTeX captured my attention at an early point in my data collection and came to serve as an exemplar of mediational tools, it is not special. All disciplinary practices have analogous tools that, at times, become focal in design and instruction. In this chapter and the next, we turn to look at the tools of practice and the institutional framework as the ecological environment for practice. We make

the assumption that these always mediate practice even when they are invisible, but at times, the data brings certain ones into focus, and in these two chapters we take a closer look at the role they may play in the design of writing assignments.

This chapter and the following one draw a distinction between mediational tools and institutional structures. This is an organizational convenience, but the distinction breaks down in practice. These two types of constituents both represent a gelling of prior practices into reifications. That is, social practices are folded into what participants see as fabricated "things." These reifications bridge history and contain traces of history. They also shape design decisions with consequences for practice. That is, they mediate practice across time scales.

This chapter looks at the system or ecology within which the designer designs with and which constrain design decisions.[12] Each represents the crystallization of prior practice. Time, energy, and activity, both cognitive and physical, come to be manifested in a material object or social grouping, which retain traces of their histories. Participation, as Wenger (1998) argued, leads to reification, and reification enables further practice, and so the cycle continues. The concept of assemblage makes it easier to see these reifications and examine their nature as systems within a system—or to switch the metaphor, as organisms within a larger ecology. It might even be more accurate to see these as DeLanda (2016) puts it, as assemblages within assemblages. In this chapter, we will attend to the assemblages around the individual designer who has been trained with/through a historical body and whose cognitive apparatus reaches tendrils into the larger system. These are the assemblages that come together at the nexus of design, presenting a coalescence of opportunity, where ideas may be imagined into being,

[12] I use the terms *system*, *network* or *ecology* metaphorically rather than in a technical sense. All are used to refer, loosely, to a heterogenous ontology that is dynamic but given to temporary clusterings, which can direct or mediate circulations—semiotic, social and material.

reflection manifested as matter. That is to say, the sociomaterial ecology of the setting offers itself as a formative force that nudges the designer in some direction or other.

Once again time plays an important role. The flux and flow of time brings the ecology into a particular configuration at a given moment. Motion leads to formation. Formation creates momentum as well as friction. In a moment of what appears to be stability (but never really is) the designer intervenes to make changes to the system. The nexus of design takes place in moments of design, moments that take stock of the affordances and constraints in what we perceive as a stable context, a frozen moment of stopped motion, a moment for assembling a plan for this class period, this semester, this year's set of students in this generational cohort, with this workload, on this daily schedule. Before looking at the data from this perspective, let's theorize some of these concepts more explicitly.

5.1 Theoretical framework

A number of recent social and critical theories used across diverse fields—actor-network theory, affect theory, and assemblage theory to name three—have seen heterogenous and contingent linkages of the human and the non-human as capable of acting and mediating within the larger systems or ecologies in which human actors find themselves (Anderson & McFarlane, 2011; Bennett, 2010; Buchanan, 2021; DeLanda, 2016; Gregg & Seigworth, 2010; Müller & Schurr, 2016). I have already used the term *assemblage* to define writing assignments. This chapter will deploy the same term to view other objects and entities that affect the design of writing assignments within the larger ecology that is an academic institution.

The term *assemblage*, usually attributed to Deleuze and Guattari, has become a convenient grab-all concept that runs the risk of overuse but allows scholars to see similar dynamics through and within diverse types of systems or ecologies. "The idea of an assemblage

can be used to emphasize the practice of assembling where contingent relations form, shift, endure or disperse; or to describe open-ended groupings or collectives… to connote emergence rather than a fixed outcome [implying] a fragility and provisionality" (Patel, Baiyere, & Johnsen, 2022, p. 4). The concept enables an analysis where we "remain deliberately open as to the form of the unity, its durability, the types of relations, and the human and non-human elements involved" (Anderson & McFarlane, 2011).

Müller (2015) identifies five features of assemblages. We have already alluded to two, that assemblages are *relational* and *heterogeneous*. They are also *productive*, meaning that they act as units with emergent properties, allowing "new territorial organizations, new behaviors, new expressions, new actors and new realities" (Müller, 2015, p. 29). However, the behavior of the assemblage cannot be explained by the operation of the parts even as parts may break free or act within other assemblages (DeLanda, 2016).

Müller also refers to the fact that "assemblages establish territories as they emerge and hold together but also constantly mutate, transform and break up" (Müller, 2015, p. 28). Thus, we may call assemblages *dynamic*, a feature that becomes crucial as we attend to the pulses and rhythms of different timescales.

Müller also points to the fact that "assemblages are *desired*" (2015, p. 29). Buchanan (2021) argues that this feature is crucial but missed by many of those who claim to building on Deleuze and Guattari's work. Desire here is not an emotional impulse but a productive if inchoate force. "It is desire that selects materials and gives them the properties that they have in the assemblage" (Buchanan, 2021, p. 56). To put it another way, assemblages are not random juxtapositions but have volitional catalysts and serve as regimes of meaning. "It is the force of desire/wish (*desir*) that co-constitutes an assemblage and without which assemblages are

unthinkable" (Müller & Schurr, 2016, p. 226). Desire is not only human, but it is especially and most saliently human. While desire cannot be associated with an individual mind, foregrounding desire privileges the psychic formation of the system. Posthumanist scholars may downplay this aspect, privileging the concrete and local over the abstract and semiotic, a point that Buchanan (2021) criticizes.

In my analysis I start with the local and the concrete, but at the same time, privilege the human over the material. This does not remove the analysis from posthuman scholarship because even as we foreground individual human actors, we recognize that institutions and policies change through more than human decision-making, that "the transformations of the social cannot be reduced to" the goals of the human participants (Pickering, 1995, p. 167). The environment and the things in it push back. However, because I am looking at instructors as designers, individual reflection and agency is foregrounded. Second, the meaning-making process within the system is focal because the elements of the working parts of the system, what I wish to label as assemblages, come to matter in the nexus of design after they are reified for the designer, a point that I will discuss in a moment. For now, it is important to keep in view the fact that what is fruitful about the concept of assemblage is being able to toggle back and forth between the concrete and the local and the abstract and semiotic. Accounting for the parts of the assemblage and its historical formation adds insight that we miss if we look only at the whole and its cultural significance. Yet we do not want to miss the imagined with its cultural force (Anderson, 1983).

To better understand the point, I want to employ Wenger's (1998) pair of terms, *reification* and *participation*. Within a practice setting, such as for the medical insurance claims processors that Wenger studied, these processes operate in tandem to allow participants to efficiently engage habitual tasks with predictable information yet to accommodate new

circumstances as they arise. Wenger uses *reification* “to refer to the process of giving form to our experience by producing objects that congeal this experience into ‘thingness’” (Wenger, 1998, p. 58). Reification "makes up for the inherent limitations of participation" (p. 64). In other words, reification provides a semiotic and memory scaffolding that allows us to perform our practices fluidly in that we can count aspects of practice as a whole, as done or decided and not needing to be revisited. For instance, the need for ad hoc discussions about when to submit a paper are eliminated if the syllabus says that all assignments are due at 10 pm before the next class.

Barton & Hamilton (2005) note that while Wenger primarily discusses reification through “literacy artifacts of some kind” (p. 15), the concept of reification encompasses “abstractions, tools, symbols, stories, terms, and concepts that reify something of… practice in a congealed form” (Wenger, 1998, p. 58). On this list are items that take us beyond a typical semiotic analysis of artifacts like written texts, symbols and codes, diagrams, monuments, and street signs. I argue that reification involves the operation of assemblages, which involve a more heterogeneous internal complexity than semiotics conventionally emphasizes. Think, for instance, of assemblages like summer camps, graduation ceremonies, and writing committees. Each of these comes to achieve a coalescence that acquires a name, that is, therefore reified. Each involves “aspects of human experience and practice… congealed into fixed forms and given the status of object” (Wenger, 1998, p. 58). Once reified, we can refer to the object as a whole. When we think of a graduation ceremony, we are capable of noting the types of hoods and gowns worn by different degree holders, how long a typical commencement address is given and by what type of personage, the style and appearance of the programs, but we can also refer to the whole event and simply put it on our calendar, all its moving parts somebody else’s problem, typically, in fact, many people spread over a long period of time.

A crucial point for Wenger is that participation and reification work in tandem and that both processes structure practice and give it meaning. Semiotics attends to the reified as the crystallization of meaning, but participation builds meaning from moment to moment, investing practice with its necessary inner logic, and giving grounds for individual identity with its personal meanings. I would like to use Prior's (2006) articulation of the principles underlying sociocultural theory to further elaborate Wenger's notion of the interplay between participation and reification as practice. First, "activity is *situated* in concrete interactions that are simultaneously *improvised* locally and *mediated* by prefabricated, historically provided tools and practices." Further, "mediated activity involves *externalization* (speech, writing, the manipulation and construction of objects and devices) and *co-action* (with other people, artifacts, and elements of the social-material environment) as well as *internalization* (perception, learning)" (Prior, 2006, p. 55, emphasis in original). To disentangle the operations of the system by proposing two interacting processes, participation and reification, as Wenger does, or six concepts, as Prior does, breaks apart a seamless whole, a dynamic ecology whose stabilizations are ephemeral and fragile. Yet, doing so calls our attention to features of practice, as we can see in a table that combines Wenger's and Prior's concepts, Table 5.1.

Table 5.1

Processes of participation versus reification

Participation	**Reification**
Situated in concrete interactions	*Mediated* by prefabricated, historically provided tools and practices
Improvised locally	Involves *externalization* (speech, writing, objects, devices)
Co-action (with other people, artifacts…)	*Internalization* (perception, learning)

"Internalization," probably better aligns with the concept of the historical body, but if we see reifications as acquiring significations and connotations, it is precisely internalization that performs that operation. If reifications are collective, they nevertheless emerge from and circulate through human brains.

Assemblage is largely synonymous with the term *reification* but each term emphasizes a different aspect of the concept. Both terms point to a process and a product, the assembling and the assembled, the reifying and the reified. I will tend to use the term *assemblage* when recalling the heterogenous nature of the elements and the process of assembling that brought them together. Here we may also use the term *black-boxing* (Latour, 1987). Black-boxing happens over time and is a story that can be told, if one delves into the history of a reification. Latour (1987) illustrates this with a particular model of computer and the double helix model of DNA starting from a moment where each was fully formed and taken for granted and then moving back to tell the story of the design of the one and the discovery of the other, each full of false starts and paths not taken. At some point, assemblages come to act as units and because this is true, they also are reference-able as things (reifications). Thus, I will tend to use the term *reification* to focus on the product, the pieces tucked out of sight in the box, the story of their assembling already fading. But, in fact, both terms refer to fundamentally the same process.

Reification requires an act of naming. Adams & Markus (2001) speculate that "the reification of culture—the tendency to turn names into things—may be inherent in the act of naming" with the consequence that "one takes something that was dynamic and flowing and renders it—at least for a moment—static and fixed" (p. 285). Clark (1998) makes the same case when he notes that linguistic labels confer cognitive shortcuts that allow human beings to efficiently navigate the cognitive puzzles of daily life. The fact of labeling allows human beings

to bring disparate things into their practice ecology and treat them in similar ways. Thus, we identify both mediational tools and social structures as nameable, as reifications, demonstrating that although they may be perceptually different and internally quite complex, they work analogously, that both are seen in similar ways and offer similar cognitive shortcuts. Thus, in our analysis, we can treat them as functioning similarly in the design moment.

Even though the social structures that I examine function as reifications within the system just as mediational tools do, they are not, in fact, identical. We perceive the former as capable of including the instructor-designer as a participant. The instructor acts as a member of a department or committee, for instance, participating in a training session, hallway discussion, or committee vote. The committee or department as a social assemblage generates culture, the “rules” of practice, which may function over a long time frame. Mediational tools, on the other hand, operate as a perceived externality of embodiment and cognition, often constructed or selected by the designer, and these mediate or coordinate the moment by moment shaping of practice. Of course, these tools may bear the traces of longer histories. Consider a syllabus that includes a statement of a writing policy that reaches back at least 40 years and has been administered by a changing cast of writing committee memberships.

Mediational tools can become prosthetic extensions of our cognitive apparatus in the same way that the sensory apparatus and the nervous system are all parts of cognition (Bateson, 1972; Clark, 2011; Wertsch, 1991). They also reach beyond the individual. Hutchins (1995) showed that cognition is distributed between actors, environment, and tools, operating as a complex system. In claiming a dialectical relationship between body and space, or humans and the settings in which they act, Bourdieu implies the mutual construction of agent and world. Thévenot (2001) argues, however, that habitus "short-circuits the analysis of the personalized

and localized dynamics of familiarity" (p. 66), meaning that the individual not only adapts to an environment but that there is an active "tuning" element where the individual also adapts an environment to their own needs and preferences. Thévenot argues that one must "take into account not only the movements of an actor but the way that his environment responds to him and the way that he takes into account these responses" (p. 58). Thus, while the assemblage mediates experience, it also reshapes practice in a mutually-constructive relationship. This interface of actor and ecology, actant and network, evolves over time.

Smith and Prior (2020) point to the role of history in layering and folding together semiotic practices. In other words, reifications bear the traces of the practices that formed them yet are not solidified, like fossils, because the system keeps evolving and changing, and with it historical bodies, and assemblages, both of which remain emergent and dynamic. “Stability is just one aspect of assemblages and it is perhaps the interplay of stability and fluidity that should interest us most” (Müller & Schurr, 2016, p. 226). Each reification, in other words, bears a history that is no longer fully visible and yet, in another sense, stretches in some form or another from a moment of genesis.

Because assemblages form over time, they bridge different time scales. “Everywhere in human culture we find this type of heterochrony: longer-term processes and shorter-term events linked by a material object that functions in both cases semiotically as well as materially” (Lemke, 2000, p. 281). Reifications have a “portability across time, physical space and context” (Barton & Hamilton, 2005, p. 27).

Perceived stability is crucial, however, and this comes through perceptual salience, the perceived significance of an assemblage. It is often recurrence, which generates the sense of a *there* there (Giddens, 1984). As the thing is formed from repeated instances of practice or

repeated handlings of an object, and as the practice or object is named and experienced, it achieves traction in the world in which it emerged, so that at any given moment of practice, it is perceived as if it were a stable formation of whatever shape it holds in that moment. Reification, then, is typically the residue of recurrence.

But recurrence is not required to achieve salience and reification. The 2020 George Floyd protests and the emergence of the COVID-19 pandemic both burst upon the scene during the course of this research project, and each serves as an example of an assemblage that snaps into position quickly as things come into a particular alignment, a thingness that has to do with their singularity and uniqueness, not their recurrence. In fact, large events that rock us out of our routines feel as if they are one-of-a-kind, even as we grope for historical analogies to help us to explain them. From this we can see that while reification often appears via recurrence and evolution, at times, it proceeds in bursts and flashes, a sort of punctuated equilibrium. Some of this has to do with alignments of time scales as these can reinforce each other or have canceling effects. The world could be said to be made up of assemblages within assemblages (DeLanda, 2016), each of which operates with a timescape that is a variegated texture of rhythms and pulses. In addition, each assemblage "not only has a distinctive history of formation but a finite life span" (Bennett, 2010, p. 24). Within the academic timescape, then, assemblages draw on multiple timescales, not only of the conventional chrononomy of years, weeks, days, hours, minutes and seconds, but by academic time cycles and the lifespans of the components of the institution–for instance, how long a school, department or program has existed, how long a policy has been in place, how long a professor has been at the institution, and how long an instructor has taught a course and whether or not the instructor's period in the department

overlapped with the individual who taught the course before. The interaction of many such cycles and pulses affords interactions that nudge the system in different ways.

Now we turn to the data. In exemplifying the concepts we have been discussing, I will distinguish two types of assemblages, structuring assemblages and constructed assemblages, or mediational tools. The first, structuring assemblages, in a sense contain the practices of the instructor as designer, and include such things as programs and departments, the writing committee and writing policy, and institutional resources that have an impact on writing-emphasis courses and their instructors. Constructed assemblages, or mediational tools, on the other hand, are created or selected by instructors as part of the course or assignment design process and will be discussed in chapter 6. In each case, we will attend to connections and impact on practice and the stabilization of structures within the academic timescape. Because it is theoretically possible to argue that everything matters to a greater or lesser degree, I am going to limit my discussion to constituents that either logically must matter because they affect writing instruction in direct ways or because they were referenced in interviews.

5.2 Structuring assemblages

5.2.1 Programs and departments

I will begin the discussion with a type of assemblage with strong structuring effects because its discourses, decisions and reifications densely enfold the practices of the designer and serve as proximate inputs on the designer's practice: the school or department that houses the course. In the institution studied here, standalone departments headed by chairs lay on the same plane as schools with deans. Other organizational units also jostled against these, such as the library, teaching support and online learning centers and a museum. While not the case here, some campuses also have attached research centers that do not house academic programs. Even

without this heterogeneity, different organizational units have diverse organizational cultures and literacy activities (Swales, 1998). These differing cultures are not fully explainable by disciplinary differences, though they are likely affected by the values and activities of the discipline. Levels of collaboration and oversight, for instance, can be affected by the department's size, the physical affordances within the work space, and the types and recurrences of meetings. All of these fluctuations and circulations are likely to impact the design decisions of professors.

If, as a grounding tactic, we keep our eyes on the material manifestations of these assemblages, we will see the human participants, that is, professors at various levels and often with different statuses, office managers, student employees and support staff who move in and out of the work space; the textual artifacts that structure the practices, such as program checklists, committee minutes, program review documents, catalog descriptions, expense reports, and so on; as well as the architectural and the material objects that furnish the offices, labs, and corridors and clutter the cupboards, shelves and cubby holes. Each has different levels of stabilizing power and circulation within the assemblage. Different components also pulse at different rhythms and function at different timescales.

One direct effect on design comes from the fact that a course can be considered to be housed within a particular school or department even if students from different programs enroll. The course code suggests these affiliations, as for instance, SOCW 350, which typically tells us that a course is housed in the department or school of social work, and implies that the likeliest enrollees are social-workers-to-be. But then what are we to make of a code like SOCI/SOCW/PSYC 350? At Sam York University, it was not uncommon for courses to be cross-listed in this way, implying that the content of the course offers a degree of

interdisciplinarity and that, in this case, the course could serve a budding sociologist or psychologist as well as the budding social worker. These assumptions can certainly guide the thinking of the instructor as designer. Sara Olson, for example, taught a course that, like the example, was cross-listed with three different course codes. To complicate things further, her students were primarily nursing students, as she explained. "The nursing students have to register for the SOCI code and not psych or social work because they need a sociology class. This is the sociology class that they need." Sara also noted that rules for the nursing program–perhaps at the bidding of the accrediting body—required a "a class that is being taught from the sociological perspective." This course, then, was singled out for that purpose and listed in the degree checklists for nursing.

To house the course within a department of sociology made sense but there was a rub here, too. "There's actually no undergrad in sociology," explained Sara. "There's like a minor, I think you can get a minor in it but there's no- and even in the School of Social Work, there's nobody who has a PhD in sociology nope…" To place the course within the School of Social Work would seem to make sense, but again that was not the case.[13] After Sara explained something of the course history, I wanted to verify that I understood, so I began to retell what I had heard, "Once upon a time…" Sara picked up and continued this narrative format:

> Once upon a time. Once upon a time the School of Social Work had its undergrad degree in social work, an undergrad degree in sociology and an undergrad degree in family studies and now only has social work. It doesn't have family studies or sociology. So it used to be that all of these electives that are cross-listed between sociology, psychology and social work- there's a bunch of them like marriage and family, aging and society,

[13] Ironically, I selected the course as part of my sample, partly under that assumption. I only discovered my error during the second interview.

> death and dying, human sexuality, social psychology, like there's all these courses that are cross-listed between, say, psych and “sosh” and sociology, which doesn't exist as an undergrad any more, like all of these were housed in the School of Social Work, and they were overseen by someone who was kind of like… overseeing the family studies major and, like, yeah, and then for some reason, all of these courses moved to psych-ed but there's nobody there that I'm aware of that's actually overseeing any of this here in the way that they did in the School of Social Work.

Sara felt this lack of oversight from the department that had come to oversee the course, the School of Education and Psychology. “I mean, hopefully, I've been doing a decent enough job, but I don't have much oversight.”

The lack of oversight, Sara noted, did have some advantages, for instance, a certain amount of autonomy to design the course in the way that she thought was best. But because the course primarily served the needs of nursing students while not falling under that school’s purview, and because it served majors from other programs as well, she found herself pulled in different directions.

> Because we've changed around departments a lot and it is a very interdisciplinary course, like, nursing kind of has a say in the fact that they wanted this to be an online course and instead of face-to-face because they have some- I mean that's why it originally moved online because they have the online BSN program so they asked for that originally. So, nursing has a say in it at some point. Social work has a say in it because it's an elective and psychology has a say in it because now we're housed in education and psychology. So we've been kind of like all over the place, but there's no, um- since we left social work

there hasn't been a- and psych-ed has been kind of going back and forth on who their dean is. I don't know who is even- I just get emails from different people all the time.

What would oversight consist of if we view it as rooted in specific moments of time in specific spaces with particular material manifestations? We might imagine face-to-face, phone or Zoom interactions with deans, chairs or coordinators. We might imagine documents and guidelines, probably voted in meetings. Here Sara felt the lack of these more direct manifestations, pointing to a looser and more faceless form of interaction, “I just get emails from different people all the time.”

An additional point about this case, which I will discuss later, is that multiple sections of Sara’s course were taught each semester, some by her and others by other adjunct faculty in a work team that she led. Taking the course as an assemblage, we see the several instructors, the enrolled students, the syllabus with the expectations and requirements, the writing assignments, the lectures, the classrooms where each section meets and so on. But these components can participate in other assemblages, such as the undergraduate nursing program or the institution as a whole. Further, emails, conversations, policy documents and so on create a network of connections within and between assemblages. Multiple nexuses of communication shaped the practices of Sara and her co-teachers, and Sara herself as lead teacher was a crucial node in that network.

Because of the unique features of Sara’s course, oversight was distributed rather than clearly situated, a truth that provided inconveniences for Sara, as she explained. “And so that's why I'm saying there's probably oversight of the core psychology courses or the core education course, but these elective courses have kind of been like floating out there for awhile, and I

haven't received any oversight on them in a long time." At this point in the interview, I responded, "So you're a little homeless," and Sara laughingly agreed, "I'm homeless."

There is no question that supervisors and coordinators can affect design decisions both directly and indirectly. Two examples showed up in the interviews. The most striking comes from the experience of Brian Sellers, who, at the time of our second interview, had "just changed the course completely." He prefaced the point by noting that "it's come about because of certain feedback." He then explained that in his course the semester typically ended with group presentations before "a panel of evaluators." To make up the panel, he invited "professionals from the community at the president or vice-president level of their organization." This meant that student projects were "evaluated by a group of four to five professionals." Brian valued the experience because "it puts the heat under" the students. But

> the problem has been that the feedback I get from the evaluators is… they're not impressed in many ways, and so… that comes back not only to me but to the dean… I've invited these people from off-campus and sometimes they [have] never been to campus before and it's just- you want them to have a good impression. Yeah, I feel like sometimes whenever that day comes, I feel like I'm the conductor of the choir, now it's up to [the students], you know. I'm just conducting. I've just prepared them and so that… has been part of this pressure to change what we're doing with this class

Brian clearly hoped that the students in his class would make a good impression on the business leaders that he invited. There were clearly several goals for the presentation—to incentivize students to take the project seriously and to do work of a professional quality, to acquaint community members with the work of the school, and likely to allow business leaders to meet possible candidates for their companies and for the graduating seniors to meet potential

employers. Thus, Brian found himself struggling to reconcile the traditional goals of spending time on “a body of knowledge to learn” but also ensuring that students did a professional job of presenting their projects. While he was considering ways to better balance these two goals, he received feedback from the dean of the school. Brian related, “After our last semester, she said, ‘I need you to change the course,’ and I said, ‘Well, tell me what you're thinking,’ and she expressed these concerns, and I said, ‘Thanks very much, you've just given me the green light to do something I've wanted to do.’” As a result of this feedback, Brian inverted the order in which he taught the course and spent the first half of the semester focused on the project rather than textbook content. He also made the major project an individual rather than group project. Our second interview took place during the first half of the semester after the redesign, so the redesign had not yet fully played out, but he felt positive about it. “We'll see… how it works. I think we're getting some positive feedback and some better understanding.” The point here is that the feedback from the dean as supervisor aligned with Brian’s own concerns and catalyzed significant design changes. Likely Brian would have made some changes without the dean’s feedback, but the feedback seemed to allow him to feel confident in making substantial changes to the structure of the course.

The other example of feedback from a supervisor was much more minor. The School of Nursing qualified as one of the larger administrative units on campus with both undergraduate and graduate programs. In this case, the coordinator for the undergraduate program, discussing feedback from course evaluations with Robin Nelson, suggested that Robin “modify some things with [her] syllabus schedule.” The school had a policy that all assignments were due at 10 pm the night before class, but Robin’s students wanted to submit after reviewing their drafts with peers, an activity that Robin arranged during the class session. To clarify the issue, Robin revised the

syllabus to include an after-class submission in addition to a before-class submission. As in Brian Seller's case, the feedback came from the supervisor, but the information reached the supervisor by an indirect route. The supervisor acted as a node in the larger system, collecting the feedback and passing it along to the instructor, who used the feedback to make design changes for the next iteration of the course.

Viewing schools and departments as assemblages can also direct our attention to the reifications that coordinate practice. Robin's mention of the assignment deadline policy within her school is one example. Schools and departments design and administer degree programs that, minimally, specify what courses students need to take, the extent to which these are ordered sequentially, and the essential content of these courses. Often, they also designate processes and requirements for entering a program or track, continuing the program in good standing, and demonstrating an overarching mastery of skills and knowledge through exit interviews, capstone classes, senior projects and so on. All of these activities result in reifications that become visible through genres such as catalogs, course descriptions, program checklists, applications, rubrics, guidelines, and email listservs that serve as conduits for coordinating student and faculty actions across this genre ecology.

While some of these documents or the policies guiding the practices may require approval at other administrative levels, depending on the management practices and expectations of other supervising units within the institution, the impetus for and shape of these policies resides at the level of the school or department. But schools and departments vary in terms of how detailed or prescriptive such policies are. To put it another way, schools or departments vary in terms of the reification-participation ratios. Some depend heavily on reifications such as policies and standards while others allow participants, in this case instructors designing syllabi,

to determine their own practices in a more ad hoc way, meaning that participants depend on their own observations and reflection to define and fine-tune their own practices. Another example from Robin Nelson also demonstrated this point. Robin described discussions with a colleague who taught research methods at the master's degree level. The two coordinated their terminology, but then, as Robin related, "one of the higher ups didn't like us having 'chapters' so they wanted [these] to be 'sections' instead… They didn't want us to say 'chapter 1' because it's only like one-and-half pages, so they said it should be section 1 instead of chapter because it seemed more like a dissertation than a capstone."[14] Keeping the word "chapter" for the doctoral level distinguished it from the masters and undergraduate. The point to make here, however, is that labeling the parts of the research write-up is something that another school or department might see as residing in participation, albeit with some tacit acknowledgment of disciplinary conventions. Here, however, it was not up to an individual instructor; it was codified and thus, reified.

One important form of reification that impacts the design of writing assignments directly is that writing practices within a department or school can be standardized through the use of writing guides. The two cases that appeared in my interviews have already been discussed in the Cycles of Design chapter, but it also makes sense to comment on them here. The first is the biology writing guide that Bruce Ivers designed to standardize the practices within the department. Bruce created the guide with input from colleagues, collaboration that continues as participation stimulates further reification. As he described the process, "I go around and it's like, 'This is what I need- this is what I do in my classes.' It's like, 'Well, let's get this into the biology

[14] Robin changed this in the participant check phase. The original transcription was "we were having like a dissertation in the capstone." I have gone ahead and adjusted the quote in this case because it does improve the clarity of the point.

writing guide.' Again, so it's standardized, so now students aren't sitting there… as they're moving through, guessing, 'How does this professor want it done?'" The ongoing development of the writing guide encapsulates the reification-participation process. It also shows how the writing guide mediated the design of writing assignments in biology. The presence of the writing guide had both affordances and constraints. It saved professors time detailing the expectations for a writing assignment in the syllabus or elaborating on the expectations in a handout or on a PowerPoint. On the other hand, it also constrained instructors since departures from the writing guide created friction within the system. These frictions might end up generating changes to the writing guide, but this outcome came after a process that likely had several steps and required some buy-in from other users of the guide.

The other example of what we might call a writing guide was the museum journal designed by Ariana Harris. This 44-page booklet, illustrated with drawings by Ariana and blank pages for note-taking, was designed to scaffold a field trip to a museum and, as discussed earlier, walk students through the process for analyzing and writing about the art that they saw. Ariana created the booklet because her original efforts to describe the activity in the syllabus was not yielding the hoped-for results on the writing assignments. Initially the book was only used in Ariana's own classes, partly because few of the other art classes had much writing.[15] Ariana had the book printed and after she used up the first print run, she created a second edition, the one to which she referred in our interviews. Ariana reported that she referenced the book in all her art history courses and referred to the ideas in the culminating course on art and worldview. At some point, Ariana's colleague had also started using the booklet in the one-credit orientation course taken by freshman. Because it was used across several classes, the booklet served something of

[15] An exception would be courses for film majors with very different expectations in terms of genre and style.

the role of a writing guide, explicitly modeling an approach for analyzing and writing about art, threading together habits of observation and analysis that students learned in early courses and would revisit later.

Another way that a school or department shapes the design decisions of teachers has to do with the curricular trajectory of a track or degree program. As already mentioned, these reifications are manifested in various ways, but the most obvious is perhaps the catalog description and course list, and in degree checklists printed for students and their advisors to reference as they plan, or to promote the program at recruiting events. The same reification may well be duplicated digitally in software used by the records or registrar's office to track a student's progress through their academic program. Hora & Ferrare (2013) found "considerations of how course sequences build upon knowledge from prior courses" to be a "frequently cited factor" in the development of course syllabi. Likewise, thinking of a student's progress through the list of courses in their program lies in the background as instructors design writing assignments. At Sam York University, bachelor's programs require students to take at least two W-courses in their discipline, and these may be designed to be taken in a particular sequence, as I have mentioned in previous chapters. In some cases, professors also mentally referenced courses that had some writing–for instance, lab notebooks–even if the courses were not designated as W-courses, and imagined a developmental trajectory of disciplinary writing skills as threaded through all these courses. The three science professors that I interviewed all discussed such sequences and referred to the developmental trajectory as scaffolded over the sequence. This was most explicit with biology, which had a large number of majors in multiple tracks, a factor that likely made standardization appealing. Biology also had its own writing guide and a research track that foregrounded the development of writing skills within the

research process. Chemistry and physics, however, did not have writing guides, but professors from these departments also described how the habits and skills of disciplinary writing were assumed to develop through a sequence of courses. These sequences were discussed in more detail in the Cycles of Design chapter.

Interviewees in other disciplinary areas did not necessarily discuss specific expectations for the other W-courses that they knew their students must be taking. In some cases, they did mention other courses but explained how the writing goals differed compared with their course. For instance, writing in the philosophy of education course helped students construct a philosophical framework for future teaching practice, which was distinct from the writing that students did in the research methods course, the other W-course they were required to take. A more overarching goal that had recently come to direct the writing within the teacher training program was the requirements of edTPA, a pre-service teacher assessment program used in more than 40 states. Education professor Ellen Deere noted that the assessment included a written portfolio, so although faculty did not teach to the program per se, an awareness of its requirements and the students' need to meet these requirements had begun to impact course planning. Ellen noted, "We are having our students write more because they have to write those commentaries… To become a licensed teacher [in this state students] have to do it. So, the writing component is huge now for them." This education case was interesting because it suggested that if there was not yet a sense of how each sequenced course contributed to students' developing skills as writers, such a sense seemed likely to emerge as faculty saw edTPA requirements as offering a tangible benchmark. If this forecast is borne out, the curriculum and its checklists may eventually offer a framework not just for content goals and general skill-building within the field but come to scaffold writing competencies as well.

The edTPA example demonstrates the complexity of reifications. The requirements that were becoming reified within this institute's school of education and clearly had already shaped participation, given that faculty had changed their practices as a result of its arrival. But edTPA originated outside of this institution and represents a massive assemblage that spreads across many states and time zones. It starts with Stanford University's Stanford Center for Assessment Learning and Equity, which, according to the center's website, drew on "teachers and teacher educators nationwide—more than 1,000 from 29 states and 400 institutions—[who] participated in an extensive, multi-year development process including pilots and field tests with thousands of candidates." It then weaves in Pearson Education, which owns and administers the assessment, the state department of education in participating states, all the institutions of higher education whose teacher trainees participate in the assessment, the faculty who advise these trainees as they prepare their portfolios, a whole phalanx of assessors, a digital infrastructure, and texts of all types, not least of which are the multimodal portfolios that include, among other things, unedited recordings of classroom teaching, which brings a large number of classrooms and their young students into this already massive and complicated assemblage. The full assemblage of edTPA had, for my interviewee, now been distilled into a single label that referenced what it meant for the students that she supervised, an entry point into a larger field of practice that extended far beyond her campus. But the entry point was at the program level, and this meant that the school of education is where this reification got folded into practice. Faculty in other disciplines across the institution could have been entirely unaware of edTPA or the profound effect it had on some of their students and colleagues.

The edTPA example, like that of the writing guides, brings us back to reifications that play a role in standardizing practices within a school or department. Schools of education

reference policies from the department of education of the state where the institution is located. These dictate much of the curriculum for the program because teachers need licenses. Because of the complexity of these requirements, a typical education program has staffers and committees to verify that the program as a whole and each graduate of the program complies with the requirements. But many other degree programs are also strongly constrained by licensing and accreditation requirements. Nursing is a field where this is true. In the case of this institution, the school had a committee that verified that the school complied with accreditation requirements. The committee also verified that each course had course objectives that fulfilled accreditation requirements. Faculty awareness of these requirements came in several ways. For one thing, a faculty member could serve on the committee and be part of the compliance process. But even those who had never served on the committee had to have course objectives tagged with the codes that connected back to accreditation requirements. Thus, these reifications were a salient part of the instructional process, and served as inputs in the design process.

Schools and departments facilitate a variety of interactions. We have mentioned several already. Another involves interactions between peers in what Wenger (1998) would call the *community of practice* and cultural-historical activity theorists would see as part of the *community* within the *activity system*. (See, for instance, Spinuzzi, 2003.) Schools and departments offer opportunities for these interactions through physical arrangements that bring participants into proximity and through periodic meetings, which synchronize the schedules of participants to bring them into physical or virtual proximity at a particular point in time. Both of these arrangements, the spatial and the temporal, coordinate the practice to afford or constrain the interactions of the human participants in the assemblage. In fact, these interactions appeared in the interviews only sporadically and with little detail about the setting of the interactions.

Nevertheless, it is useful to imagine the temporal and material affordances that enabled the interactions even as these lack salience in the memories of the participants. For instance, when Pamela Sherman discussed feeling overwhelmed at how long her planning was taking in her during her first year at the institution, she recalled, “I remember I talked to Keith Diehl, I talked to Nina Ellis, I talked to people down in my other department that I was working for, like, is this wrong? Should it not be taking me this long?”[16] Where and when she talked with these colleagues was not important to her recollections, but these conversations were most likely physical encounters enabled by spatial and temporal convergences, serendipitous moments. Without the opportunities provided by these convergences, she would not have been able to avail herself of the resource of her colleagues' longer experience with the relevant practices. Another example, also from one of my interviews with Pamela, involved the department’s oral exams where, as she recalled, some of her colleagues wondered, “What can we do that Pamela has done to make it so that our students are passing at such high rates? Because they are discussing their theorists, they are discussing theories, they are discussing applicability to current events, and they're doing it so well, and I think that a lot of that comes back from the writing assignments.” The interaction almost certainly happened in a meeting where multiple members of the department were present. This would be true during the oral exam itself, but the discussion of the success of Pamela’s students surely did not happen in the students’ presence, so we are talking about a satellite discussion focused on the oral exam, perhaps in a department meeting or possibly a debriefing session after an exam concluded. Perhaps to imagine further, the discussion might have taken place at a meeting tethered to a longer arc of time, for instance in year-end meetings. We do not know, but whatever the case it is likely that this discussion was less

[16] I choose to use pseudonyms for individuals mentioned in quotes rather than paraphrasing to “a colleague,” for instance, because using names better captures the flavor of the comment.

serendipitous than the first example. Since oral exams fall at scheduled intervals near the end of a semester, we can even imagine the discussion somewhere within a predictable time cycle. To take this case just a little further, following the discussion came a reifying move, as Pamela related.

> History professors are building in their classes where they're discussing particular theories so that they can then test on those theories, and they're changing the oral exam guide, a certain section of it, to match my guides because they really like how those are working… so, basically [students] are going to, instead of being able to discuss terms, they are going to discuss the theorists and the terms and be able to speak to its relevancy and where- how they see it applied.

As we can see with the nursing example, scheduled and synchronized events—meetings, in other words—produce opportunities for collective reflection, which, in turn, lead to reification.

An example of the process comes from Sara Olson, who, as previously mentioned, had been leading a team that taught multiple sections of the same course. She described how the collaboration typically worked.

> They are exactly the same, just different instructors... So, I am the lead teacher for the three courses, or the four courses that are taught. I design all of the content and put together the course, and then once my course is ready, we roll it over to the other instructors. So, basically the only thing that changes is their names on the syllabus instead of mine. And then I meet with them periodically throughout the semester, and they come to me, like with any questions about content or things like that, so it's all the same content, just different instructors, like they're basically having to do the grading and interface with students.

While this quote makes it sound as if Sara's co-teachers simply took Sara's design and taught the course, this was not the case, as another example made clear. In this case, Sara was discussing a change she made to the course between the first and second interviews, a revision of the rubric used for scoring the major writing assignment.

> I mean, it's hard to think of where, like, ideas come from… I think, honestly, the most influential factors for me in changing the writing- changing the rubrics were just an acknowledgement from my fellow instructors that we needed to have some changes to the rubrics. So, I met with my- there's two other instructors who teach the same course. I developed the content, the main teacher, and one of them in particular… he has been really vocal about improving the rubrics… mostly that was a big factor for me in actually sitting down and changing it, and then also again like when I was grading the students' papers this summer.

This quote indicates that while Sara's own observations and teaching experiences impacted the redesign, the discussions with her co-teachers also mattered. As we have done with previous examples, it is useful again to speculate about the time and place of these discussions. Since Sara was teaching an online course and working at a distance, we can imagine that the discussions took place via a scheduled Zoom session. We can see that Sara was fairly systematic in her planning process, so we can also imagine that the meeting was scheduled at a particular point in that process, likely after Sara had reflected on likely changes and perhaps had a draft to discuss. It is, of course, possible that some of these discussions also occurred via email.

We know that formal and informal collaborations take place all the time in workplace settings. The examples above are relatively mundane instances. One question that interested me, however, was how important these forms of collaboration were to instructors, particularly in

reference to how they designed writing assignments. Did they tend to perceive themselves as planning courses and designing these assignments independently or in tandem with colleagues? The interview and survey data offered some clues. First, the survey data. Collegial exchanges in one's own department or school was tied for second place in the rankings, with seven of 20 respondents choosing this option as having "significantly influenced" the way they designed writing assignments for their W-course. While graduate school experiences with writing was ranked much higher, with 19 participants choosing this option, it appears that discussions or interactions with peers did have a significant impact. Interactions with colleagues was tied with professional relationships and interactions outside the institution, such as conferences, workshops, gleaning ideas from professional journals and so on. In fact, this parallel choice suggested the importance of reaching out to others who shared disciplinary values and practices. In contrast, interactions with colleagues in English or communications, that is, those who conventionally taught writing was lower, with five respondents selecting this option. Training offered by the writing committee was the least-selected option, chosen by only two respondents. Once again, it appears that instructors placed greater value on the experience and knowledge of colleagues who shared their disciplinary values and practices, and this was deemed more valuable than the support from writing experts outside of the school or department.

Now we turn to interview data. Of ten participants, four stated that they did not recall any form of discussion or collaboration in reference to writing assignments, though no doubt they did discuss other instructional and departmental concerns. One, when asked, responded, "No, um, I mean, I'd be open to it. But people are busy." Business professor Brian Sellers gave a longer and more hesitant response that added up to the same thing. "N-n-not really. Though I- I'll say no, not really. It's- um, I have a feeling that we are all, we all- (four-second pause) I don't know. I

don't know. I don't know what- how others are doing it. I just know that I'm searching for a thorough way to assess and give feedback for writing. There's been, you know, there are some- I don't know what others are doing, honestly." The six participants who gave responses that were coded as revealing some collaboration include three already discussed: Sara Olson's discussions with her teaching team, discussions around the biology writing guide, and the coordination in nursing between colleagues who taught at the graduate and undergraduate levels. Besides these, the data included two cases of discussions in department meetings and one case of collaboration between an instructor who had previously taught a course and the instructor taking on the course. This last situation is worth discussing.

An important way that ideas are passed within a department or school is when a course is inherited. Much of the time when instructors take on a new class, they are taking over a preexisting course rather than inventing one from scratch. Of twenty survey participants, for instance, 16 reported that they inherited and then tweaked at least one of the W-courses that they had taught. This did not exclude two other possibilities—that an instructor inherited a non-W-course and then applied for a W-designation or that the instructor inherited a course and left it largely unchanged. In six of the ten interviews, participants indicated that they were describing a course that they had inherited from predecessors, in three cases we discussed courses that the participant had designed, and in one case the question did not come up in the interview. Once again, we can see that a majority worked with courses that they had inherited rather than designed themselves. An inherited course represents an exchange that may or may not represent a collaborative moment. When two instructors overlap, passing a course from one to another can involve a significant amount of interaction. Craig Hoffman's chemistry course represented such

a case. Not long ago, a second chemistry professor took over one of the W-courses that Craig had taught for a number of years.

> Now [he's] coming on board, and he's using the stuff that I developed and he may change it at some point, so that's his call… in fact, we just had a discussion today about possible changes to the research and seminar class, and just toying around with ideas, you know… This is the second time he's taught [the research class]. We co-taught it once, and he taught it in the fall, and then he taught it again. This winter he's teaching it. And so the first time through, actually, I taught the class and he sat in, okay? Observing- meets once a week- and kinda got the feel for what we're currently doing or what I'm doing. And then the next time around it was his turn and he basically just took the whole thing and just kind of ran it and then tweaked it a little bit here and there. And then this semester he's tweaking a few other things, you know, so I'd say he's in the process of kind of experimenting with how he wants to do the course and what he wants to do with it.

Craig described what might be considered the ideal scenario. The two instructors not only taught in the same department at the same time and had explicit discussions about a course and its expectations, but the instructor taking over the class had the opportunity to observe the course in action. I am familiar with one other example of such a transfer, but I would imagine that this scenario is not that common. Much more common would be a short conversation and an exchange of syllabus and other materials. Sometimes inheriting a course simply means collecting an old syllabus from wherever it is stored and using it as a reference. This sort of transfer might also involve some second-hand discussions, a colleague recounting what so-and-so used to do. In these latter instances, the syllabus mediates the exchange. It served as an anchoring object in Craig and his colleague's case, as well, which I will discuss in the next chapter. At the moment,

suffice it to say that it is the structuring unit of school or department that enables collaborative moments when a course is handed from one instructor to another.

From the interview mentions and the survey data, we can conclude that discussions around writing practices were not particularly frequent or salient, but when they did occur, they represented convergences of practice—like a shared or similar course. In this sample only the biology department seemed to have had formal discussions about fostering or standardizing writing practices. At this institution, then, the school or department had a number of structuring effects on the design of writing assignments, but not usually in terms of direct guidance.

5.2.2 Institutional resources

5.2.2.1 Writing committee

Another structuring reification with an obvious role at this institution was the institutional writing policy administered by the writing committee. Since policies at the institutional level can change slowly, the timescale here was longer and the effects were more stable than those discussed in the previous section. Instructors who designed a new course intended to be a writing-emphasis course or who decided that an existing course has a sufficient amount of writing to qualify as a writing-emphasis course submitted an application to the writing committee. The application asked the instructor to describe how the course would satisfy the policy, including both extemporaneous writing and “at least one substantial planned paper” and describing how the instructor planned to provide “constructive feedback at least three times during the semester.” The application asked the instructor to attach assessment tools for the major writing assignments. The writing committee reviewed and, according to my experience on the committee over several years, generally, approved these applications.

The policy document offered quite a bit of amount of latitude for the planned writing. For instance, a list that appeared substantially unchanged between a 1980 version of the policy and the one in use at the time of this study offered the following options for planned writing: "research papers or research proposals, article critiques, literature review, book reviews, case analyses and studies, original and creative narratives, original interpretive essays, lab reports in essay form," and "other types of writing at the discretion of the professor."

According to the policy, the extemporaneous writing was designed to "demonstrate what the student is capable of writing without outside assistance." The understanding of what this might mean had shifted slightly from the earliest document I found, a 1980 version of the policy. In the 1980 document, the extemporaneous was defined in terms of formal assessment, meaning that W-courses were to have two exams of "a class period in length," having "at least 50% essay-type questions." Instructors were also permitted to use "shorter essay quizzes and extemporaneous written reactions to professional literature." In the current version, a "writing to learn" emphasis had been added as a second option, one of "two types of suggested extemporaneous writing." Nevertheless, the writing to learn option was still associated with "in-class assignments," which seemed to preclude blogs, forums, and other forms of digital and personal writing.

The application and a few other materials that emerged from the work of the writing committee were available on the university website under the subheading "Writing Committee Forms" under "Forms for Faculty." I found the forms in this location by using the search function on the general website. Because the location was not the most intuitive, I am not sure how many W-course faculty had accessed these materials from this location.[17]

[17] A former writing committee chair remembered wishing for a dedicated page for writing committee materials but speculated that this location was chosen as a general collection point for colloquium materials. The writing

In any case, in May of 2022, writing committee materials included five items, ordered as follows: a writing scoring guide; an explanation of the writing scoring guide, which was essentially a rubric version of the writing scoring guide; a two-page policy document called "Criteria for General Education Writing Emphasis Courses; a checklist for fulfilling the criteria to have a course designated as writing-emphasis, that is, the application form to submit to the writing committee; and a writing rubric, which largely duplicated the explanation of scoring guide but in a simpler form. I will discuss the writing scoring guide, which was largely duplicated in the two rubric versions, in a later section of this chapter, but first I would like to look at the degree to which the writing policy impacted practices in W-courses.

In addition to the documents in "Forms for Faculty," a course was set up on the learning management system. Instructors of W-courses could be added as course participants, allowing them access to all materials posted at this site. However, this required the writing committee chair to take inventory of who was teaching these classes and manually update the roster every semester, so this communication node did not appear to have been used much. At any rate, no participants mentioned availing themselves of the resource.

Instructors who had recently gone through the application process no doubt found the institutional writing policy had a significant impact on their design thinking. However, generally interviewees did not mention the policy, or they confessed that it did not impact their thinking very much. Another clue that the writing policy impacted design thinking less than the committee might have wished came from an inventory of all the writing-emphasis courses for a selected semester, Fall 2019. Of 34 syllabi, 12, or about one third, entirely lacked the required syllabus statement while several had adapted or idiosyncratic versions. This departure from the

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committee presented a workshop during the colloquium, so its materials were placed on the website with other administrative documents that were provided to faculty during those meetings.

policy may indicate that the courses had been designated as writing-emphasis courses some time ago and the instructors who had inherited the class did not verify whether they were fully compliant with the policy. As a further clue, five of the courses lacked any indication of how the extemporaneous writing requirement was being fulfilled. This was in contrast to the many syllabi that did not reference the requirement explicitly but listed activities that could fulfill the requirement, typically exams or quizzes.

While the writing policy was certainly salient to instructors during the application process for the W-designation, the writing policy did not appear very influential for most of the instructors that I interviewed. Sarah Olson was a good example. Consider the following exchange:

> LS: Ok. And then.. you've also got a- I noticed from your syllabus a mid-term and a final exam that has some short essay, so I assume that's also meeting [the institution's] policy for a W-course, the extemporaneous part of the course
>
> SO: Yeah, we have essay questions there.
>
> LS: Oh, I was just gonna say I see the forum as being extemporaneous too, but I don't know how you conceptualized it.
>
> SO: I did not actually look at whether [the institution] requires, uh, essay questions for writing course, the- I think that's just part of the inherited piece that I would have multiple choice and short answer or essay questions.
>
> LS: Oh, I see. Ok, so in a sense for you, you know this is a W-course—In fact, you are the star of W-courses, if you will, in terms of your student number (SO laughs)—but you had- that really hasn't, it sounds like, impacted your thinking that much, you know. The

course was created as a W-course. It's fine and you just stay within that model. You don't go back and read the policy or anything.

SO: Yeah, I haven't read the policy on what [the institution] requires for a writing course. I mean, I think I probably should (laughs) but I haven't gone back and read what they require for a writing course, and I guess I'm probably basing it off of the writing courses I took in undergrad, just thinking about, you know, what kind of writing assignments I had in W-courses versus non-W-courses and that's how I've kind of gauged their- yeah, their level of writing in this course...

This fairly lengthy exchange captures the nature of the relationship between the policy and an instructor who inherited a course with the writing-emphasis designation. She was aware of a policy operating in the background but had not gone back to review the policy. In fact, she went on to note that she changed the course in certain ways after taking it over. I will continue from her response above.

SO: …and actually- oh, I should've mentioned, I've- they used to write to a lot more in this course. They had two major papers. So they had their research paper, which we still have, and then an oral history and then I took out the oral history and added the interview component to the research paper and then they had- it used to be a service-learning… They had a service-learning component to this course, which now they've taken out. They had the service-learning paper, uh, an oral history paper and a research paper.

LS: Oh, wow! (laughs) That sounds like a little much.

SO: Yeah, within the year, first year of teaching this course, I took out the oral history paper because we added the interview components to the research paper, and I thought, you know, like that's enough, you know, connection with older adult and interviewing

them, but we kept the service-learning paper until they removed the service-learning requirement for the course, which was maybe three years ago.

LS: Mm-hmm. Okay. Right, well, the only reason that I asked you about the W-course policy is simply because again my research question has to do with what things influence people. And some people are going to say, well, this is the policy therefore I have to do X, Y or Z. So that's got a sizable influence and other people, you know, they'd have other factors that are more influential.

SO: I should really read the policy for what I need to be- yeah, that's a- now I'm getting some ideas of what I need to do.

LS: Well, as a matter of fact, I can tell- I can reassure you that your course completely meets the requirements so no worries.

SO: Ok, good. (laughter)

Here we note that Sara made tweaks to the writing requirements early on, in the first year of taking on the course. Then, when changes at a higher level occurred, dropping the service-learning component, she made the needed adjustments. In neither case did she verify that these adjustments aligned with the writing policy beyond what she remembered of such courses from her own experience with them in her undergraduate years.

As we can see from the exchange with Sara, I did at times allude to the writing policy in interviews. However, none of the questions on my list explicitly directed participants to discuss its role. Without asking them directly, I cannot draw any definitive conclusions about the role of the policy. Sara’s case and other evidence from the interviews suggests that instructors who did not go through the application process for the W-designation were somewhat aware of the writing policy but that it had a relatively weak impact on their design thinking.

Three of ten interview participants did discuss the writing committee expectations as playing a role in their thinking. I will consider all three, from weakest to strongest impact. In the first case, in an interview with physicist Paul Hunt, I remembered to ask about the role of the writing policy, “So this is a W-course, and I wanted to have you talk just a little bit about the pressure that you feel to conduct the course in a way that fits with the W-policy or [whether] the course ends up pretty much looking like it looks because that's the way it needs to look for physics majors.” Paul admitted, “I tend towards the latter, for better or worse. I'm not feeling any pressure to change, but if anybody had just asked or said, ‘Hey, did you think about this?’ I would, I'd be happy to change.” I returned to the question a little later in the exchange.

> LS: … I'm just curious to know how- to what extent that the policy itself has influenced people's thinking as opposed to all the other factors that might influence your thinking.
>
> PH: It’s, it's there.
>
> LS: Yeah.
>
> PH: Maybe it's tertiary. But it's there.
>
> LS: Ok.
>
> PH: You know, I have read it and made sure, that um, I have all those elements. It's been a couple years since I've done that, so I think it's important, but it's not, yeah, it's not the first consideration.

This exchange demonstrates that Paul had some awareness of the policy but that other goals weighed more heavily.

Ellen Deere supplemented the major project in her class with two shorter papers that focused on a key individual in the educational tradition. I asked her to talk about her thinking

when she chose these shorter assignments, and she started by making a connection to the writing policy.

> Well, I knew it was a writing course and I learned what that involved here at [this institution] and so in looking at what I wanted to do in the course, it seemed to, in my mind, at least, make sense to build to the bigger paper, I knew what the end paper I wanted it to be. That was not difficult. I would have done that with or without writing standards. But when I knew I needed to also give some assignments in between, it just seemed to fall at a logical period of time that they would do that… these are critical people in this course… so… [it] would make sense to tie in writing assignments to those critical stages.

In Ellen's case, the writing policy seems to have played an important role in generating the assignments that she ultimately chose to accompany the longer paper for the course, and, in fact, these supplementary assignments seemed to offer significant pedagogical value for her.

The participant for whom the writing policy seems to have been most influential in redesigning a course was Craig Hoffman in chemistry, who described examining the policy as part of his design process, specifically as covered in a training session on W-courses. "When the English department did some training for writing courses—this is five or six years ago—I went to that and I became more educated, and also I took the document and I tried to make my course align with the expectations for the W-course."[18] The policy document shared at the training session shaped Craig's thinking, and he redesigned his course to align with the policy. The training session, an assemblage within the large assemblage of institutional writing practices,

[18] While Craig attributes the training to the English department, it would probably be more appropriate to attribute it to the writing committee, which has often been chaired by English faculty. Brian Sellers made the same misattribution. My research suggested only the writing committee has offered the trainings described.

was the real mediator of the change. The policy document came within this framing, as an anchoring artifact within the training assemblage.

We have seen that the policy itself seems to have had a limited effect on practice, but Craig's experience suggests that training can help strengthen an instructor's awareness of the policy and motivate changes. It is no doubt common in institutional settings to have neglected policies or practice tools, overlooked reifications that might provide efficiency or clarity. Participation can mean reinventing the wheel, or it can mean looking for and resurrecting relevant reifications. Training can call attention to neglected reifications as well as initiating newcomers to practices.

Since around 2010, the writing committee made efforts to ensure that faculty new to W-courses had the opportunity to attend training sessions to acquaint them with the policy and expectations for these courses. While the content and style varied, depending on presenters, a typical session used PowerPoint to review the policy and gave tips to instructors on how to design and teach assignments that fulfilled policy objectives. Playing a mediational role in the training sessions were the two-page policy handout and the one-page scoring guide recommended for major writing projects. These matched the website versions but were distributed to participants. Most often training sessions were scheduled as one of several colloquium workshops offered before the fall semester. For instructors embarking on a new W-course beginning in the fall semester, these sessions likely proved timely. However, some began teaching W-courses in the winter semester or were unable to attend a training session.[19]

Two interview participants mentioned availing themselves of the training and mentioned that it played an important role in redesigning their W-course. Craig Hoffman referred to the

[19] However, one former writing committee chair did tell me that she made a point of contacting faculty who were unable to attend and scheduled a one-on-one meeting to go over the policy and expectations.

training in both interviews. Besides the mention above, he noted that he had started conferencing with students after attending a training session. Brian Sellers also mentioned the "seminars that the… English department has had in regards to the structures and the grading rubric," meaning the sessions offered by the writing committee.

On the other hand, survey participants ranked training sessions offered by the writing committee as the least consequential in their design thinking. Only two of twenty participants selected this option as playing a significant role on a question that allowed them to choose multiple options. One possibility is that a minority of instructors who taught W-courses had availed themselves of the workshops. For one thing, some years the workshops were not included in the colloquium line-up. When offered, not all W-course instructors attended, even if the session was tagged as "required attendance for writing course professors," as in 2021. Some faculty had teaching responsibilities that overlapped with colloquium sessions, some were adjunct faculty who were not required to attend colloquium sessions, and some may have simply opted not to attend, knowing that although a session was "required," it would not be policed. On the other hand, we also cannot rule out the possibility that participants had not found the sessions as valuable as other resources, such as colleagues within their own disciplines, a resource that was ranked as relatively consequential for survey participants.

One thing that could enhance awareness of the writing policy for some instructors is membership on the writing committee. While this was not something I investigated in the interviews, I know that at least two participants served on the committee because they served during my time on the committee. It is quite possible that other interviewees served in previous years. It seems difficult to imagine that membership on the writing committee would not make an instructor more attuned to the design of writing assignments. After all, one of the main jobs of

the writing committee was to approve applications for the W-designation. None of the interview participants mentioned membership in the committee, but one did mention making a proposal to the writing committee to limit enrollment to reduce the grading load when a professor had multiple writing-emphasis courses. It is possible that this individual mentioned the committee in part because at the time of the interview both of us were members of the committee.

To conclude this section, we can note that instructors were to varying degrees aware of the writing policy, that it did not appear to have a strong impact on their design thinking, but that participation in training sessions offered by the writing committee enhanced the impact for some participants. Finally, we can imagine that participation as an active member of the writing committee would make the policy more salient in the instructor's design thinking.

The writing scoring guide available on the university website for instructors of W-courses evolved over the years but less than might be expected. I found a version of the scoring guide in writing committee materials from 1980, but it was redesigned during the 2009-2010 school year after a top administrator urged the committee to create a standardized assessment tool. The version distributed by the writing committee and referenced by participants was substantially the same as the one voted at the end of the redesign process.

The redesign process is worth commenting on as the assembling of an assemblage and an act of reification. The committee met six times over seven months with the main task being the redesign project. To come up with a new scoring guide, the committee compared the old scoring guide with a number of rubrics and scoring guides collected from at least four English department faculty and six faculty from five other disciplines, as well as with a number from other institutions. At the end, the committee produced a scoring guide with five unified criteria and an open criteria for "discipline-specific elements." The committee also prepared an

accompanying explanation sheet that was essentially a rubric version of the scoring guide. As we can see the process brought together practices and values from instructors across multiple departments on campus. In addition, by examining and discussing scoring guides and rubrics from other institutions, the committee also folded in practices from beyond the campus. All represented reifications present on the campus or elsewhere. The process attempted to open up the black box of these reifications and reexamine some of the principles that lay behind them. Then, the committee folded the results into a new reification. After the scoring guide was completed, the chair of the writing committee presented it at a faculty-wide meeting, which included giving faculty an opportunity to test drive the tool by scoring a short sample paper.

The current scoring guide used for W-courses includes six categories, namely, "unity,"[20] "support," "organization," "mechanics and style," "professional standards," and "discipline-specific elements." The first criteria, unity, focused on clarity of purpose, mentioning that the paper should have a "thesis" and be "clearly unified on the thesis." The second criteria, support, called for "substantial, logical, concrete development of ideas" and stipulated that "main points [be] sufficiently supported with specific evidence." "Organization" referred to logical ordering and paragraphing. "Mechanics and style" covered surface-level features of usage as well as appropriateness of style. "Professional standards" checked for adherence to an appropriate style guide for citations and formatting. The final criteria, "discipline-specific elements," was left for the individual instructor to define. The scoring guide also left point values and totals to the discretion of the instructor.

Although there were no instructions on the scoring guide itself nor in the listing on the website, we can infer that the scoring guide was to be used for scoring major projects rather than

[20] Called "focus" in earlier versions

for extemporaneous writing. It also appeared that research-based essays were privileged over other academic or public genres. This was demonstrated by including wording like “thesis,” “style guide,” “citations” and “references page.” This likely means that the scoring guide fit some disciplines and genres more than others since Wolfe (2011) found diverse styles of argumentation in disciplinary writing in addition to thesis-driven assignments. Many academic genres do have a central purpose that is supported by documented evidence, so it is likely that the scoring guide could apply in many cases, but it would be a poorer fit for an engineering proposal, business case study, or lab report, to say nothing of a screenplay, short story, brochure, or web page. This is probably one reason that in my interviews, I discovered that for some of the major discipline-specific projects, instructors chose not to use this scoring guide, a point that will be discussed later in the chapter. The writing committee did invite instructors to submit alternative rubrics or scoring guides to fit the needs of their courses, but the standard scoring guide offered a more limited vision, weighted towards a traditional, default genre.

The writing committee version of the scoring guide did see a fair amount of uptake. This came through in several interviews. One mention came from physics professor Paul Hunt, who noted that he had “actually adapted the rubric from the writing committee on campus, and just kind of made it more discipline specific.” He showed me his version on his computer, adapted as a Turnitin scoring guide. Two other interviewees also mentioned using the standard scoring guide.

A couple of faculty attributed the scoring guide to the English department, a conflation that demonstrates the complexity of its origin and circulation. For one thing, for many years, the writing committee was chaired by English faculty. In the development of the scoring guide, the committee drew from the practices of English faculty, through their participation on the

committee and the rubrics and documents they brought to the discussion. While the chair of the English department was not on the writing committee, he supported the adoption of a scoring guide, which aligned with his vision of essay structure. In fact, the writing committee chair involved in the redesign of the scoring guide recalled a parallel drive in the English department to develop a scoring guide to standardize practices in first year writing. Thus, drafts from the writing committee were carried to English department meetings for discussion and feedback. Eventually, a revised version of the scoring guide was adopted by English faculty. Uptake was swift enough that when I was introduced to it as a newcomer in 2010, I assumed that the scoring guide was a rooted reification rather than a recent innovation.[21]

The operations of participation and reification within institutional spaces, to use Wenger's (1998) terms, lead to the circulation of mediational tools, which in turn help to establish and stabilize practices. As instructors participate in the activities of their department, including instruction, meetings, planning sessions, hallway interactions, and so on, they also share texts that represent the coalescence and stabilization of practices and policies. These texts further stabilize practices at least until participants perceive a disconnect between how these represent or govern practices and emergent trajectories of change. Then participants recalibrate and revise, though in practice this also involves jerry rigging and ad hoc customization, as Spinuzzi (2003, 2008) describes. On the scoring guide used by this campus, leaving open a space for disciplinary expectations gave it some flexibility and avoided an unworkable unanimity that might drive users to abandon or evade the tool. We can expect that mediational tools, such as the

[21] It was only after reviewing the timeline during this research that I realized that the scoring guide had moved from the writing committee to the English department. I assumed the opposite.

scoring guide described here, will be adapted by some participants and ignored by others, but their availability is likely to pull the community towards a semblance of consensus.

5.2.2.2 English department

Besides the close relationship between the writing committee and the English department, at times in the past, the chair of the English department appears to have served as a resource to consult about writing issues, at least for some faculty members. This came up in two interviews. When Brian Sellers inherited his business strategies course, he kept the major writing assignment, a case study project but added some short writing assignments. One resource Brian drew on as he was designing the shorter writing assignments was the English department chair at the time, John Apel[22]. Brian was hoping to find a more efficient and objective way to evaluate the shorter essays, and Apel mentioned a video on essay structure that he had created for his first-year writing students. Brian reviewed the video and found it helpful, so he recommended it to his own students as a valuable starting point. Brian also adopted a version of the scoring guide that Apel gave him. I did not check to see when this occurred, but Brian's request for assistance to Apel served as another entry point for bringing the scoring guide into circulation in W-courses. The version included in Brian's 2019 syllabus showed the same criteria as the writing committee version, though Brian had modified the wording to fit his own assessment style.

Ariana Harris also consulted with Apel a few times, as she recounted:

> He would come down to my office to give me advice. I would call for him- for advice and he would come and help me, and it's funny because he never wrote me back an email he would just come down. 'Cuz it's pretty close. So, he would come down and- (interruption) Oh, yeah. So, I think- a few times- one time there was a guy that wanted to

[22] Pseudonym

> talk about a really disgusting art, artist, and I said, ‘What do you do when personally I don't really wanna dwell too much on that art, and if there's somebody that kind of is pushing your buttons by, you know, wanting to be something kind of in your face?’ He said, ‘You have- you're the teacher, you tell 'em.’ That was one advice he gave me. The other advice is that- to time the interviews that I have with students, to only give them, like, 15 to 20 minutes or whatever.

From these two examples we can infer two points. First, one thing that made this English department chair a useful resource for these two faculty members was his generosity and willingness to help. In Brian’s story, the chair shared two resources—the video and the scoring guide—and in Ariana’s he “would just come down” personally to answer questions. The other point that applies was the physical proximity. All three faculty were located in the same building, so it was not difficult for the chair to leave his office and head downstairs or to the other side of the building.

In fact, both Ariana’s and Brian’s accounts suggested multiple interactions with Apel. Brian described his history with his colleague:

> I was assigning [the essay] before, before I knew anything about… the Apel video… having known John for a long time and then he- (chuckles) when I was working on… my master's degree, he had given me… the idea of the writing structure, and so I used that throughout the time I was working on graduate school and my doctoral program.

It appears that Brian had asked his colleague and friend for advice on his own writing and found it helpful, so he later returned to ask for advice on improving the writing of his students, and in this case, received the video as a resource. Likewise, Ariana apparently interacted with Apel multiple times. This is apparent from the quote about how “he would come and help me,” but

there was a further indication from another point in the interview. In this case, Ariana alluded to an illustration that Apel frequently used and that Ariana had found useful in discussing essay structure with her students. “So then [I] talk to them about organizing it around a thesis, and then I do this little picture on how you introduce the paper, then each pillar—you know, John Apel did this and I'm sure you—each pillar of the temple is holding a part of this thesis, so… it's a very simplified form of explaining.” Ariana correctly assumed that I was familiar with the illustration. Indeed, early on in my time at the institution, Apel had told me the story behind the illustration, a story rooted in his own undergraduate experience. With my own students, I did not end up using the analogy of a Greek temple with pillars to describe how each point in an essay should support a thesis—the roof, in the illustration—but I did find it a compelling and effective image. The point here is that sometime in the past Ariana had an interaction with Apel that led her to pick up the illustration, which she continued to use in her classes. This implies multiple interactions between the two. It also shows the complexity of the assemblage: the chair of the English department with a commitment to structuring essays in certain ways, a scoring guide that captured the crucial features of an essay structured in that way, an illustration, rooted in his own undergraduate experience, that provided a graphic visualization of essay structure, a video of himself describing essay structure using these features—perhaps even with the illustration of the Greek temple—and discussions with colleagues about essay structure in which he shared the scoring guide and video as resources. The material, social and semiotic circulations represented here led to uptake for two instructors who brought the information and resources into their own teaching practices. A separate circulatory path led the same scoring guide into other W-courses, where three committee chairs later, it still resided as a resource on the university webpage and continued to be a central tool in writing committee training sessions.

5.2.2.3 Writing center

Judging by the interview mentions, the writing center played a minor role for most instructors of W-courses. Four participants mentioned it, all from the conventional perspective of helping struggling writers. Ariana Harris, for instance, expressed frustration about students not using the writing center nor making appointments with her during office hours. Because her student load often ended up on the higher end for W-courses, this resulted in an overwhelming number of not always well-constructed papers to grade over a short span of time. One strategy that she tried was making it a requirement for students to visit the writing center during the process of writing the major paper. Craig Hoffman also mentioned the writing center but felt that it did not play much of a role for his students. He believed that the writing center was not likely to provide the disciplinary specifics that his students needed.

> I don't have a disappointment that they don't either, you know, cover that side of things. But if they did start doing technical stuff, I mean, chemistry's going to want it one way, biology's gonna want it one way, physics is gonna want it one way, math is gonna want it one way and so, you know- But, yeah, I do send students there from time to time, and I think that the ones that I have seen benefit the most are the non-native English speakers.

While the writing center was not mentioned in very many interviews and only as a student resource, it might have potential to serve as a point of contact for faculty as well, especially since the director of the writing center was made the permanent chair of the writing committee. The director had held the position for more than seven years at the time of my study, giving her some insight on the types of writing being assigned and a decent knowledge of the challenges that both students and faculty faced. This would seem to make her a good choice as a go-to person for campus writing questions.

5.2.2.4 Other relevant training and resources

Writing committee training sessions were not the only training opportunities that faculty had on campus. Two other training opportunities had the potential to impact how instructors designed and taught writing across the curriculum, both of which fell under the auspices of an institutional center dedicated to improving the quality of instruction and assisting faculty in finding ways to integrate faith with learning. One of these involved weekly lunch meetings spread over the school year. The other was a one-week summer institute with the primary goal of encouraging participants to develop a "biblical framework" for their courses. The institute also discussed best practices for teaching and learning. In this context, participants chose one course to redesign by developing a relevant biblical framework and integrating active learning strategies. Though not specifically related to writing assignments, the institute clearly involved considering which assignments and activities best fulfilled the purposes of a course, and in the case of W-courses, this would include writing. The survey showed eleven of 17 respondents had participated in a summer institute.[23]

One clue about the impact of the summer institute on instructors came from the inventory of the W-course syllabi for a single semester (Fall 2019). Of the 34 courses represented in the inventory, 19 did not explicitly reference a biblical framework or include the type of map that attendees at the institute were encouraged to create. However, ten syllabi, that is, 29%, did have such a map. Four others included some wording that may have been influenced by the institute, for a total of 41% of the syllabi. Some instructors teach more than one W-course, so if we account for that overlap, it appears that perhaps 25% to 30% of instructors participated in the

[23] At least one year the summer institute also included the writing committee training. At the time, new faculty were asked to attend the summer institute as an orientation experience, meaning they received the W-course training as a bonus.

institute. Neither the survey nor the interviews directly examined the impact of the summer institute on the design of writing assignments, but building a biblical framework requires the instructor to examine the goals and purpose of the course, which one would assume would have an impact on instructional practices. The two mentions of the institute in the interview data did not provide much detail about its impact on design thinking. One professor mentioned that she had participated in the institute two separate summers and worked through the design of two courses but did not discuss how this impacted her design decisions. The other, nursing professor Robin Nelson, commented, "All of my courses have been through summer institute, so I have a biblical foundation of faith and learning for every single course I teach." In fact, both of these participants referred to faith aspects at several points in their interviews and both attended multiple summers of the institute. This implies that the integration of faith and learning was already a core value for them[24], but attending the institute likely also strengthened their commitment to this value.

While the summer institute had a focus on integration of faith and learning, the lunch meetings varied. Sometimes organizers drew on outside content, for instance video training sessions, but most sessions were presented by current faculty or members of the instructional technology team. Many focused on technological interventions. But others focused on instructional interventions perceived as having a high impact on student learning, which included the occasional session presented by the writing committee. I participated in one of these in February of 2022 as a co-presenter with the current chair of the writing committee. At this session, the chair presented ideas for research-based writing, and I gave tips about how

[24] It may even be a reason they chose to attend the institute.

instructors might fulfill the extemporaneous writing requirement.[25] We did not discuss the policy, as this was covered in a colloquium workshop before the fall semester. Thus, the assumption of the lunch training was that it supplemented that earlier training.

A crucial feature of the lunch meetings was, of course, that these occured during a mealtime and involved food. This incentivized attendance and tended to lead to more enthusiastic participation compared with the summer institute or the colloquium workshops. The room allocated to the lunch sessions adjoined the cafeteria, putting it in a central and familiar location on campus. Even those with more distant offices and workspaces had a less than ten-minute walk from this location. Attendees were typically seated around circular tables dotted around the room, allowing informal interaction. The circular tables also offered presenters a place to leave handouts or other materials within easy reach, and participants could be readily grouped for an occasional brief breakout session. By including the serving line in the same room, participants could arrive late or return for additional servings while listening to the presenter, allowing for a seamless and informal pattern of participation. Thus, we can see that the lunch trainings offered a variety of incentives for faculty—collegiality, convenience and free food—in addition to efficient and informed presentations for improving practice.

By pointing out that these are lunch meetings, we also allude to what at first seems quite mundane, the position of the event in the daily work cycle. But this deserves a closer look. By situating a meeting at a conventional mealtime, as we have noted, the center increased the appeal of participation. By using lunch, specifically, they created a logical break in the work day, and because fewer classes were scheduled during this hour, more faculty were available to

[25] Attendees received two handouts, one on research-based writing and the other a checklist to stimulate the design of extemporaneous writing assignments. These texts did not influence this research participants because survey and interview data had already been collected.

participate. A lunch meeting, in other words, finds a sweet spot in the daily work cycle that affords—though certainly does not guarantee—wider participation. In fact, by placing these meetings on Wednesdays, organizers centered them in the weekly work cycle as well. I am not aware of any institutional research looking at how these meetings contributed to professional development, but it does seem that by choosing this time slot, the center maximized the likelihood of impact.

These sessions were mentioned in only one interview when Ariana Harris noted, “I like going to the lunch things, and I noticed- I liked what you said once about reading with a focus in mind. That was also really good because I know my students have a lot of reading for my class.” A frequent attendee at these sessions, she referred to one of my presentations a few years earlier on critical reading skills rather than writing practices, but her comment did suggest that she found this type of presentation helpful. We might add that even when not focused on writing, the sessions probably do have a minor and attenuated influence on writing instruction because of the focus on innovative teaching strategies and technical tools.

The survey did not focus on any one type of training, but a question looked at “on-campus training opportunities” as a general category. The results can be seen in Table 5.2.

Table 5.2

Changes made after campus training

Question: What changes did you make to writing assignments in your W-course(s) as a result of on-campus training opportunities? (*Check all that apply*)

Rank	Changes to writing assignment and instruction	N=19	%
1	Used previous assignments but made some small modifications to instructions or expectations	10	52.6%
2	Created class activities to better engage students in the writing process and/or to provide feedback during the process (from instructor or from peers)	7	36.8%
3	Developed new supporting materials (PowerPoint presentations, videos, handouts, etc.) to scaffold the writing process and help students better meet expectations	6	31.6%
3	Changed assessment or marking practices for writing assignments	6	31.6%
4	Added one or more new writing assignments (major writing assignment or several shorter assignments)	5	26.6%
5	Made significant changes to previously-used assignments (purpose, audience, genre, medium, style of language, types of evidence, design or layout, changes to the writing process, etc.)	4	21.1%
6	Brought in new technology to assist students at any stage of the writing process	3	15.8%
6	Changed what happens to assignments after students complete the final draft	3	15.8%
7	Changed topics that students could select or changed the process for selecting topics	2	10.5%
8	Added peer review of drafts	1	5.3%
	No changes to writing assignment design		
1	None, or have not participated in any training that impacted writing assignments	4	21.1%
2	Changed other aspects of the course but kept writing assignments substantially the same	1	5.3%
		5	26.6%

Probably not surprisingly, instructors appeared to have a fairly strong commitment to the assignments that they had already chosen to include in their courses. Ten of nineteen participants did not indicate that they had added any new assignments, while five indicated that they had. Those who added a new assignment could also have kept some of the previous assignments, but it is clear that most participants did not add new assignments. Further, only four participants

reported making significant changes to assignment expectations. Most of the reported modifications appear to scaffold the writing process in some way—revising class activities and adding peer review sessions, creating supporting materials, changing scoring, and using technology differently.

As we summarize this section of the chapter, it is worth referring back to a table displayed in the previous chapter, Table 4.11, which listed the significant influences on design and teaching of writing assignments. Besides graduate school writing experiences, collegial exchanges were seen as significant design influences. Attendance at professional conferences, discussed in reference to disciplinary influences, also ranked high. On the other hand, on-campus training opportunities were not seen as particularly influential. In general, it seems that the initiatives designed to support the efforts of W-faculty, such as the policy guidelines or training sessions did not appear to be a strong design input.

5.2.3 Beyond the outer ring: The WAC community

In addition to looking at on-campus influences it is also worthwhile examining the influence of writing across the curriculum (WAC) initiatives as a larger trend and the extent to which these initiatives impacted this institution. WAC gained traction in the United States in the 1970s. A number of campuses had added WAC initiatives by the time the National Network of Writing across the Curriculum Programs held its first meeting in 1981 as part of the Conference on College Composition and Communication (Thais, 2015). Since that time the WAC community has grown to include an international community of scholarship, of which an important hub is the WAC Clearinghouse. According to its website (https://wac.colostate.edu/), the Clearinghouse “is an open-access publishing collaborative that is supported by the efforts of more than 180 scholars who serve in various editorial roles, including as journal and book series

editors, editorial staff, reviewers, and editorial board members." Founded in 1997, the resources from the site have seen wide distribution. This is demonstrated by the fact that in a recent year the site "recorded more than 3.2 million visits to the site from more than 1.5 million distinct visitors and saw roughly 2.8 million documents (primarily books, book chapters, and articles) downloaded." Despite its reach, neither of the former writing committee chairs that I interviewed were familiar with the work of the clearinghouse during their tenure as committee chairs, although one became aware of it later in her work with first-year writing.

The earliest years of this institution's WAC initiative remain obscure, but mimeographed minutes from documents dated 1980 show that the college, as it was then, already had the writing-emphasis course policy. This suggests that a forward-looking individual became aware of the WAC movement as it was beginning to take off and brought the idea to the campus. However, when we compare the wording on the 1980 document with the version currently on the website at the time of this study, we can see that the policy had changed relatively little since it was initiated. How much the scholarship and practices from the wider WAC community impacted practices on this campus is not known, but some clues exist. For instance, during the 2009-2010 academic year when the writing committee was redesigning the scoring guide, the writing committee chair collected scoring guides from other campuses as reference. During that time, she also collected information about writing-emphasis or writing-intensive courses at more than 20 other campuses and compared their policies with the policy on this campus. In this case, the information on the websites of these schools served as an intermediary node between this campus and the wider world of WAC practices. Faculty and staff from other institutions may or may not have been involved in WAC research or participated in trainings or conferences, but the

writing committee chair at least caught some sense of current WAC practices as refracted through these other institutions.

Three of the last four writing committee chairs have been members of the English faculty while the chair at the time of this study directed the writing center. None of these individuals had a background in WAC or rhetoric/composition/writing studies. One had a PhD in literature, one a master's in creative writing, and two had degrees in TESOL or applied linguistics. One served as the writing committee chair fresh out of graduate school and noted that she had some familiarity with WAC from a Composition Theory class she had taken, but as committee chair, she did not attend conventions or follow WAC scholarship. However, other committee chairs did attend the Conference on College Composition and Communication during their time as writing committee chair, and one bought an edited collection on current research and practices, *WAC for the New Millennium*.

From the interview data, we see that Ariana Harris joined a session at a professional conference on writing within her discipline. The connection between that session and the explicitly-named WAC movement is likely to be attenuated, but Ariana's experience does suggest that the wider world of writing across the curriculum, understood broadly, could also have entered institutional practices through individual instructors outside of English or the efforts of the writing committee.

From what I could determine, writing committee chairs did seem to be the main node for bringing ideas from the wider field of WAC into circulation on the campus. To examine the dynamics, let us start with a writing committee chair who did not see herself as drawing on wider scholarship during her time as chair. Although her graduate school class gave her some acquaintance with WAC and she understood that acting as committee chair placed her within that

sphere, she pointed out that during her time as chair, the committee was most concerned with internal reorganization, specifically ensuring that the application system and scoring guide were understood and having an impact on instructors. For this reason, external influences, philosophical or pedagogical, did not call themselves to her attention. For her, internal exigences gave the node of writing committee chair an internally-facing orientation, which limited interest in wider practices. This was in contrast with the previous chair who had led out with the redesign of the scoring guide. Although the scoring guide was certainly designed to impact internal practices, the process nevertheless invited the question, "What are other campuses doing?" and she did attempt to familiarize herself with WAC practices.

To sum up, as we examine the circulations within the system, it appears that WAC scholarship had a weak influence on the practices of this institution. For one thing, we have seen that the writing committee exerted only a weak influence on the redesign of writing assignments, and as discussed above, the current flowing into the committee from the field outside was also relatively weak. Thus, it is not surprising that major innovations did not appear to be all that common, and instructors seemed more likely to make minor tweaks after drawing on information from feedback loops connected to the classroom and the department.

CHAPTER 6

PRACTICE IN FLUX: CONSTRUCTED ASSEMBLAGES

In chapter 5, we looked at a number of reifications that make up part of the assemblages more or less defined as social groupings and activity systems within which instructors participate or whose activities impact the design process. These include schools and departments, the writing committee, accrediting bodies, training programs, and so on. This chapter continues the discussion of reifications and assemblages within the ecology of practice but shifts attention to reifications that may be under the control of the instructor or even generated as part of a design process. In other cases, these have been created by other groups elsewhere but function as mediational tools in the practice space where they may have a robust impact on design decisions. One that has already been mentioned as coming up in interviews is LaTeX. But others include textbooks, learning management systems, syllabi, plagiarism software, rubrics, handouts, topic lists, and so on.

Mediational tools, like the social groupings discussed earlier, are assemblages, not merely artifacts, although there is often a central, focal, material artifact. Many of these are black boxed, to use Latour's (1987) term. For example, a course textbook represents enfolded and crystalized practices—the writing work of one or more authors, the reading and feedback process of a group of reviewers, the editorial process from planning to copy editing and proofreading, the work of art directors, designers and artists, the work of printing and distribution, the work of sales representatives, and so on. At each step, of course, we are failing to notice human contributors like editorial assistants who bring an editor a cup of coffee, or the warehouse worker who puts a sample copy in a cardboard packet to send the instructor for review. By the time the professor holds the sample copy in her hands, flips through the pages and breathes in the new book smell,

all of those practices have receded from view. At this point the black-boxed object, the textbook, is poised to take its place within a new assemblage. Here we see students at a library table, book open, highlighter in hand, or sitting in a classroom, feeling the absence of a book forgotten in a dorm room. We see book bags, handouts and study guides, online quizzes—perhaps provided by the publisher—cells on a course schedule with page numbers for readings, PowerPoint slides, moments of lecture, and many other elements loosely drawn around interactions with the course textbook. But once again we always return to these mediational tools at the nexus of design, the moments of practice where an instructor reflects on and plans for a course and defines the assignments that will make up the students' learning experience.

Hora & Ferrare (2013) found that the most frequently referenced artifacts influencing planning and instruction for their participants were the syllabus, textbooks, and instructional technology with 73% of their participants mentioning the syllabus, 66% the textbook, and 66% technology. Technology played a minor and supporting role for the instructors that I interviewed but the other two proved to play a crucial and coordinating role for design.

The findings in my own study largely paralleled the findings of Hora & Ferrare. According to the survey, the syllabus played the most significant role with 14 of 20, or 70%, of participants selecting it as central. The learning management system tied with instructions or checklists to scaffold major writing assignments, with 13 of 20, or 65%, of participants making this selection. The textbook also played a central role for many, with 10 of 20, or 50% of participants making this selection. Two participants selected readings other than textbooks, and a write-in response also mentioned readings, so if we include these as filling largely the same role as the textbook, these findings come close to those of Hora & Ferrare's. To see all of the ranked responses, including several write-in selections, consult Table 6.1. Because participants tended to

start with textbook or readings as their first step in the design process, I will start by discussing textbooks and readings, and then move on to the syllabus. Checklists or descriptions of major writing assignments (as ranked in second place in the table with 13 out of 20 respondents selecting this item) could refer to scoring guides, rubrics, or checklists. These can be given to students as part of the syllabus, included on the learning management system, or distributed to students in class as separate handouts. My research did not compare the distribution mode for these, and they were somewhat separated in our discussion. We already discussed the standard scoring guides, but after the discussion of the syllabus, I will compare the standard scoring guide with similar assessment tools used by interview participants. I also mention descriptions and checklists of major writing assignments in the discussion of the syllabus where those were included as part of that document.

Table 6.1

Mediational tools that play a role in course

Question: Which of the following objects, materials or tools plays a *central* role in your course, especially in relation to the major writing assignment(s)? In other words, you refer to it frequently inside and outside of the class and consider student engagement with it to be crucial to their success. (Check all that apply.)

Rank	Type of mediational tool	N=20	%
1	Syllabus as a whole	14	70%
2	Learning management system	13	65%
2	Detailed instructions and/or checklist for major writing assignment (in syllabus or separate)	13	65%
3	Course textbook	10	50%
4	Disciplinary style guide or writing textbook	6	30%
5	Writing guide produced by school or department	4	20%
5	Suite of videos or guided learning modules	4	20%
6	Other software or interface	3	15%
7	Anthology or list of outside readings	2	10%
8	Readings (not textbooks) (*write-in response*)	1	5%
8	Supplemental writing resources placed on LMS (*write-in response*)	1	5%
8	Series of short reports on professional topics (*write-in response*)	1	5%
8	Library resources: database, writing coaches, research guides, etc. (*write-in response*)	1	5%

6.1 Textbooks/readings

For many instructors, the textbook is the mediational tool that serves as the starting point of design and plays a crucial role in structuring the course. Here, for instance, is biologist Bruce Ivers explaining the steps in his planning.

> Well for me, that would depend upon the class. You know, like with General Biology, it would be choosing a textbook. You know, then it would probably be, outlining the logical sequence of what should be covered first and what should be covered last and the flow in between and sometimes textbooks- you agree with textbooks and sometimes you don't, you know. You agree, you organize you know- and then getting down to so if you use this chapter and in science textbook there's always, like, there's way too much material, you know, so how do I whittle this down into what do they really need to know in order to move on with this. So that's really different than, like, an upper division ecotoxicology course, you know. That one I don't even have a textbook. You know, I give them everything, you know… let's get students the basics so they understand what toxicology is about and exposures and all these basic things there, and then we read literature… that takes the principles that we learn and applies them now to real life situations, and how does this actually work out, and we are in there critiquing other people's reading and their writing and their science and stuff like that, looking at how politics influences science, how society influences science.

Bruce contrasted the lower division course where a single textbook plays a central role and an upper division class where he gathered a series of readings to cover the topics that he wanted to include. Hora & Ferrare's (2013) participants also mentioned this contrast between upper division and lower division courses in terms of "autonomy in selecting course content" (p. 237).

In either case, it is the textbook or the instructor-selected corpus of readings that gives the course its shape.

This was also true for chemistry professor Craig Hoffman, who tended to start planning with a textbook already designated.

> I take the textbook. I look at how many topics I need to cover, basically, plus or minus a little, and look at how many lecture periods we have, how many exams we have, and I basically go through and count how many pages there are… and see how many pages there are for the semester and then how many days I have, and try to break it out into even number of pages per day. For most of the classes that I teach, the content is already there. I don't choose what I'm gonna talk about, you know… That's the first thing that I do, okay? After that then I look at more specific things about what I would like to do in terms of specific desires that I have for the students to learn certain things, teaching style, whether I'm going to do a flipped class, or a mixed class, or just a lecture class or, you know, how am I gonna do that, how am I gonna make that work and that sort of thing, and then I go in and try it and see what happens and adjust it.

Others report a similar process. They start by selecting a textbook or gathering a set of reading materials. Or they take the book that has been adopted by the team. Then, they fit topics to time as they make a schedule.

Like Bruce Ivers, Pamela Sherman taught courses where choosing the topics and gathering a selection of readings worked together. In other words, she worked from an emerging vision of the course, an idea of what she hoped to cover, which was then shaped by the readings that she found. In one of our interviews, for instance, she reflected on the process of planning a topics course in history and politics.

> So probably the theme came before the text, but that doesn't always happen... That was probably just this case. I would probably say that the supplemental books, that- those books will come first and then- or the theme will come first, then the supplemental. So like for political economy I knew that I wanted to have a supplemental text in there too, and so I chose state capitalism and so the theme came first and then the book. So I guess maybe the theme does come first, yeah.

She reported that her classes often had several books as well as some articles. In any case, like with the science professors, it was the readings more than anything that shaped the course. "Generally, I choose the text, the textbook first… and journal articles because then everything else branches from that." In her case, not depending on a single text but drawing from a selection of readings proved to be the best practice for a couple of reasons. As was the case for Bruce's upper division course in ecotoxicology, some of Pamela's courses also involved a topic not well-served by a single textbook. In addition, she argued that the nature of her discipline made articles a better option.

> I think about journal articles because they are something that is so substantial to the field, like we don't produce a ton of books. I mean, obviously there are a lot of political science books. But when we think about what our professors use, it's primarily journals because they turn out so much faster, and we're always talking about current events so if you're waiting for a book that might be three years down the line and that that information is no longer really relevant to what you're looking at and journal articles become a main tool in in our classes.

As already mentioned in previous chapters, at the time of our interviews Pamela was engaged in doctoral studies, which had significantly impacted her practices. One benefit was directing her attention to relevant articles for her courses.

> Talking about sources, I think that I have a lot more insight as to what is trending right now. …I obviously try to stay up on my own reading just as a professional, but there's something to being in that climate that just encourages you all the more, obviously, as you know. And so I think that I am finding more trending articles to be building into my syllabus.

We have already discussed how ideas from her doctoral work impacted Pamela's practice in terms of historical body. In other words, she had the experiences, reflected on them, and recalled them later as design inputs. But everything in the system or ecology is interlinked and entangled. A practice that entered through the emotional affect of a graduate school experience, the "happy object" of a trending article in the field (Ahmed, 2010) may now enter the experience of Pamela's students. The historical body and a material object—whether a photocopied article handed out in class or a PDF accessed through a learning management system—worked together to recruit an element of one assemblage and carry it into another.

Paul Hunt's experience selecting the writing textbook that his graduate professor wrote was a similar case to Pamela's in this sense. This example was discussed in a previous chapter. Because this professor was a mentor whose approach to teaching writing had benefitted Paul, Paul was motivated to use his mentor's book with his own students. In fact, the fit was not perfect, but Paul still found his professor's innovations appealing. "The unique thing about the book… is it proposes that you spend fully fifty percent of your time planning and not writing, and it's, you know, a little bit idiomatic in that way, and I present it to them in a way that this

isn't the only way to write, but let's try it and see if you learn anything from it." An issue that arose was that the book was "way too long, and it's been a challenge for the students." When we talked in the second interview, he was contemplating a change. "My students are not willing to invest too much time reading about writing… And so I've considered finding a different resource for them that's more succinct. For instance, I've used Strunk and White, which is wonderful and certainly packs a punch." Like the case with Pamela, however, Paul was motivated to translate practices that he found useful in his own graduate school experience, and he brought in course materials as a result, in this case the text written by his professor.

As we have seen, in many cases, the selection of reading materials involved first selecting one text that approximated the instructor's vision of a course and then adding supplemental materials to fill the gaps. Much earlier, I described how Ellen Deere gathered materials from multiple sources and drew on her own life experiences to design a graduate course for educators. At the heart of that process was the search for an appropriate text, as she explained.

> And so, I chose to develop that course, and I started doing some extra reading. I found some magazines that kind of thing, journals not a lot of them in that topic, you understand, and I looked for a textbook, and the textbook was s-o-o old. That was- and I thought, this will never work. And so I started just kind of pulling things together and just reading, going through what I could find in search engines, that kind of thing, but it's not easy because of the topic.

She went on to describe how she got help from library faculty, drew on a document used for school evaluations, and browsed trade magazines. But then her luck changed.

> And then- crazy thing, they had a new addition of that very old textbook- It's probably 20 some years old, and they came out with the new edition. I saw in my checking again

> through some stuff they are redoing this, so I ordered it. And when I got it, I thought, 'Well, this is not the best, but there is so little out there,' so I decided to use it, and I had looked at the pre-release one, and so I decided to go ahead and use that one. And it's not perfect, but it's better than nothing at all, I think.

Finding a usable textbook made things much easier, but Ellen still found gaps. "I added- um, it didn't have very much on maintenance, for example. And so, I went out searching for stuff, and I found some videos, and I found some documents, the government documents and things like that." Ellen took pride in the outcome of all of her efforts.

> Feedback from students was really quite positive, so I felt good about where we were at with it. But that was tough for me to develop that. Because there wasn't anything that was driving it. There are no standards out there that say that it's this way, you know, and because there's so much variety. Think about the different kinds of buildings in design and maintenance and all these things involved in it, and there probably should be standards- there're government things, but they're not that specific to education… So, anyway. Quite a process.

While this was for a graduate course, we can infer that the thought process behind course design would likely be similar for her undergraduate courses. First, look for course materials, with the primary one being a textbook, but barring that, gathering materials that will fill in for the textbook. Next, look for any other documents or materials that are relevant. This structures the content of the course. The text is the mediational tool that establishes the parameters of the course and fleshes out the topics, which instructors then allocate to different weeks and class periods.

While I have already given ample evidence of the role that texts and readings played in mediating the topic selection process for interview participants, I want to add one more example. The cases of Ellen Deere with the facilities management course, Bruce Ivers with Ecotoxicology and Pamela Sherman with the Middle Eastern politics and history course show the instructor's vision as playing a decisive role in topic selection and selecting texts to support that vision. However, textbooks can also suggest fruitful topics that an instructor may not have considered. Such was the case for Sara Olson. Like in the cases discussed, Sara tried to find a book that was a decent match for her vision of the course but was willing to add resources where the book fell short.

> The textbook isn't something that I feel I'd wanna build the class off of, it's more I look for a text that fulfills most of what I want to cover in the course… There [were] a few chapters in there that I hadn't even thought about adding before that became included in this, but then there were parts that I felt like it didn't cover enough so I pulled from different resources… I picked it because it covered a lot of the topics that I wanted to cover in the course, and it introduced me to a few that I didn't even think about including before.

The chapters that she had not thought of including turned out to be quite fruitful in this case.

> For example, like the biology of aging above and beyond, you know, like physical health or epidemiology of aging, just like the actual, like, you know, biology at the cellular level of aging… they cover that pretty well in the text, so I made a whole module about it whereas before I didn't have any- you know, I wasn't thinking about that. I'm also trained as a sociologist so that's maybe not the first thing I'm thinking of when it comes to aging, but I'm also teaching a lot of nursing students and some pre-med students so, you know, I

> was like actually this is probably pretty good content to put into my course, and I hadn't thought about it before, but this book introduced me to that idea.

An important point to make is that a textbook comes to instructors having already gone through a similar design process. That is, an author or team of authors in consultation with an editorial team have imagined a prototypical course and packaged the content to match it. For instance, Watt (2007) summarizes the three stages used by Holt, Rinehart and Winston in developing a new edition of a biology textbook.

> The pre-production phase involved surveying market needs and competitive products. The developmental phase involved a production team of authors, subject specialists, consultants, content and copy editors, a photo researcher, an art director, a production manager and sales personnel, overseen by a senior editor, developing the textbook and ancillaries in response to feedback from the education community and special interest groups. The post-production phase involved monitoring the response to the marketing of the textbook and ancillaries for sales' results and feedback about potential changes, and sales personnel developing promotional materials and providing training in the use of the product (p. 12).

The process described here involves a number of actors in each phase. Among them are a number of academics, including those surveyed in the market research phase, the “authors, subject specialists,” and “consultants,” and the instructors whose conversations with sales personnel enter the feedback loop. In most of these cases, these individuals have enough knowledge to imagine the course, in this case, a general biology class, and bring into the conversation their own practices and visions. But the collectively imagined course of the authors and publishers is too general to perfectly match local needs. The local institution has its own

values, the field is continually changing, and each new cohort of students has its own characteristics. As an early design step, choosing a text or texts, the instructor fits the course to the text. But in the next step, instructors add or subtract content to fit the text to the course.

Frequently this part of the design process involves a collective decision. If Craig Hoffman, a seasoned professor in a small department, could start planning a new course with a textbook already determined, it was because he and his colleagues had already discussed textbook selections. Likewise, Sara Olson as the lead teacher for a teaching team, sought input from her co-teachers during the textbook selection process.

> When I told them I wanted to change the texts that we're using, I gave them two options that I was looking at, but I'd already… narrowed it down to two options. So instead of like, 'Hey, help me choose a text,' which is a very broad thing, I said, 'These are two very good texts that I'm looking at, which ones catch your eye?' And I got some feedback from them on that, and I was leaning towards the one that they also were suggesting as well, so. So, yeah. There's some input from them there, but for the most part- like once we picked a text, like to- you know, once they gave me feedback on that, I just went ahead and built the class.

Sara narrowed down the options and took the lead but sought collaboration during the selection process. Interestingly, once the textbook was selected, she went ahead and developed the course, again an indication of the text's orienting role in course design.

While my purpose here is mostly to parse the data provided by my participants, I should mention that studies of textbooks corroborate these findings. A good example is Richardson (2004), who studied how introductory economics textbooks shaped the instructional process at an Australian university, finding that "the textbook frames all of the activities and events

embodied in the lectures, the tutorials, assignments and examinations. These activities and events are a gloss on the textbook, requiring the textbook for the interpretation of their meaning and sense making" (p. 506).

I have given a great deal of evidence of the central role of the text and discussed how an instructor with a clear vision of the course may add supporting readings to fill perceived gaps. A final point I want to make here is the trade-off between the historical body and the role of the textbook, another instance of the participation-reification interaction that Wenger speaks of. A couple of interview participants discussed their changing use of the textbook, in the sense of shifting more of their practices towards their own participation and away from the textbook as a reification. For example, Ariana Harris described how her use of the course textbook had changed over time.

> When I started teaching, I was so scared. I was so overwhelmed, I didn't know where to begin, so I hugged the textbook. I just hugged the textbook and developed lectures and then did the quiz questions after the textbook, blah, blah, blah, everything was like around the textbook. I'm realizing lately that people are moving away from textbooks… [at a] convention there was a lady from John Hopkins that teaches art history there, and she was like, 'I'm not gonna make my students buy a textbook.' 'I'm like, wh-a-t? How are you gon-' Says, 'there's too much information on the internet, and I mean, there's enough stuff out there, students don't want to buy the textbook for $130. I don't blame them. I'm moving away- I'm gonna dump the textbook.' I was like, 'Wow, okay!' So I- now though I feel more confident to dump the textbook too. I might do that. And create my own. My own list- The scary thing with the internet is that it changes all the time, so that's ewh, the walking on water a little bit, you know, you don't know if you're gonna-

> But I might publish some of my own stuff. I think the more you teach the more. it becomes yours. But in the beginning, I hugged the textbook. I followed the textbook.

Ariana went on to say that even at the beginning of her teaching experience when she depended heavily on the textbook she did look for opportunities to bring in a Christian perspective and used her judgment about what to include or emphasize.

> I did look through it and say and think, ‘This to me is more interesting, especially… from a Christian perspective’… and then I was like, ‘This is interesting, I'm gonna skip these, skip that, and it looks like this artist is very important because… this artist builds on him, so I definitely need it.’ So, you know, you just kind of like, glean.

Ariana finished her discussion of textbooks by, once again, pointing out that she felt freer adjusting and changing materials in classes after she had taught a number of times and that she was more conservative with new courses, as she worked through the material with a class for the first time or two.

The other interview participant who changed the way he used the textbook was Brian Sellers in his redesign of his business course. He had used a version of the course with the textbook as an orienting mediational tool. But this role receded in the redesigned version.

> In the past I used to go chapter by chapter in the book. Now that pretty much followed the progression of this project, but I'm giving much more emphasis on the project itself [now] and so I’ve carved up the elements in the textbook so that I’m asking [the students] to read this section, this section and this section. And this may be out of two or three different chapters because it covers the material that I want to cover. And if it… appears disjointed when they read it, I try to stitch it together… in lecture, being that this element

> is a precursor to the focus that we have here in this part and so on. So… I am going over it, the reading that they were expected to read and apply it to our case.

In other words, the textbook that used to be the central mediational tool for ordering course content was given a lower priority. With the redesign, the case study became the central organizing object in the course, and the textbook content was woven around the case study. But students read the appropriate parts of the textbook to understand the logic underlying the case study. As course goals changed, a different mediational tool was chosen as central for coordinating the content rather than the textbook, the original mediational tool that occupied that central position. Brian commented that in the second half of the semester, as the project became less central, he intended to foreground the textbook again.

> So what I've done to structure it the second half of the semester is go back to the text…and there we're going to talk in rather rapid succession [about] each chapter that we've kind of put off to the side and because we really need to go over some specific aspects of… strategy… but… I don't consider… those areas to be essential for this project. Some parts of the book are essential, which I've already had them read, and I'll be giving them a test over that reading. Then, the second part of the semester, I am assigning them the parts of the chapter to present to the class. I'm then backfilling that wherever they may have missed. We can have discussion format, and then we have a test. So every- almost every meeting we're testing it. They've gotta know it.

From this statement, we can infer that the textbook was the default way of organizing the class. In the redesign Brian flipped the two elements of the course—project and book. By raising the prominence of the project vis a vis the textbook, Brian underlined the importance of the case study, emphasizing that it had to be done well because of its importance as a course outcome and

because of the public face of the presentations. But it was also evident that Brian was still committed to covering what he had earmarked as the core content presented in the textbook. As we were finishing the discussion, I noted that it seemed that now the textbook had become "the servant of the project." Brian responded, "Yes. It probably is a good way to put it."

Because textbooks play a central role in organizing course content for many instructors, it is also useful to note that one participant, chemistry professor Craig Hoffman, chose a supplementary writing textbook along with the main course textbook. The main course text provided the backbone of the content, while the supplementary text served as a reference for the writing part. Some years ago when he was tasked with making the course into a writing-emphasis course, Craig created an "outline of some expectations" for the writing part of the course. But he was pleased to find a textbook that served that role better.

> When this book came out, we saw it and immediately snapped it up because it's just right on target, and I think it's probably eight or ten years old now, but it works very well. We've continued to use it, and from this, I began to look at scientific writing in a more formal way… I learned by experience, doing it with… my advisor… when I was a… graduate student, et cetera. But when I got this book, everything is all put together, you know, and so I began teaching out of this.

Craig summarized key takeaways in a reference chart for students but also continued to use the book as a supplementary text in several courses.

> We use that for our textbook in three of our classes, both of the writing classes and then also Chemistry Seminar. And it's all about professional work, whether it's oral presentation, poster presentation, writing, all kinds of writing, you know, that we do in chemistry, and it's really very, very good. And so I've spent a lot of time in that as I've

> taught the class with that textbook multiple times. Probably well over a dozen times I've used this in the various classes. So that has helped me a lot because it's kind of formalized things for me.

As we can see, for the chemistry faculty, this writing textbook came to act something like the writing guide does in biology. Once again we have a mediational tool, a reification, that shaped practices beyond a single class. In Craig's case, the department attached the writing to the lab portion of the physical chemistry course, a somewhat cumbersome solution, but having the additional writing guide helped organize the two aspects of the course. As useful as the text proved, Craig adapted the book by distilling the important points in a chart and a training session, allowing the full book to serve as a reference for students as they analyzed and inscribed their data and reformulate it in the write-up of their research, that is, as they were socialized in their disciplinary writing practices. The writing textbook established professional practices, as Craig noted here. It scaffolded students' acculturation. By saying "it's kind of formalized things for me," Craig recognized that tacit notions can be helpfully put into words, perhaps with samples and even exercises. In other words, as Flash (2016) discovered, WAC instructors can find it helpful to recognize things that they take for granted in order to spell them out for students. This text did that job for Craig.

6.2 Syllabus (and schedule)

For many instructors, textbooks or, as an alternative, a collection of readings played a coordinating role in both design and instruction. Another mediational tool that also played an important role is the syllabus, and for some, the syllabus rather than the textbook was what kicked off the design process. In fact, 60%, or 12 out of 20, survey participants indicated that reviewing their own or syllabi of others was their first step in designing or redesigning a course

whereas only five, or 25% selected readings and seven, or 35% worked to create a course calendar as their first steps. This may reflect the reality that some had already taught the text, or found it fairly predictable in terms of its content. The syllabus was the primary artifact driving course design in Hora & Ferrare's (2013) findings, but this existed in a complex relation with the textbook, especially given that the textbook was often selected by the same committee that stipulated course policies and standardized syllabi. And, in fact, 46% of the participants in their study selected the textbook as a key artifact driving course design, "particularly through the features of content selection and sequencing" (p. 235). As Hora & Ferrare (2013) conclude, "This highlights the nested or interconnected nature of artifacts and how they frequently operate in practice as parts of larger networks or configurations" (p. 235). Whichever comes first, constructing the syllabus is a crucial step.

The syllabus is a complex assemblage enfolding and incorporating practice at different distances and time scales. The syllabus does this in multiple ways. For one thing, features of the syllabus are reinscribed in an obvious generational way, as they are passed from one instructor to another, within and outside of the institution. The syllabus also serves as a node that brings together traces of multiple other activity systems across many scales of practice—the larger legal framework, institutional practices and values, departmental policies and practices, and disciplinary and professional objectives. Syllabi thus inscribe the practices of individual instructors and the larger systems that entangle them, reflecting history as well as codifying current practice. In addition, the syllabus manages the present and looks toward the future as bridging time is one of the core functions of the syllabus since it is intended to be an important and frequent point of reference over the course of the semester.

The syllabus is a material artifact that coordinates instruction and also serves a mediational role within the design process. For instructors who start the course planning process by selecting content from the textbook or readings, a crucial follow-up step is scheduling the content over the semester. The emerging schedule is a core part of the syllabus. It ties together the smaller timescales experienced within the instructional frame—the activities of class sessions, weeks of class and sections of the semester—to make the learning trajectory coherent to both students and professor. Beyond this, the syllabus serves as a historical artifact for the institution, which collects and archives syllabi for various purposes. Indeed, occasionally a student may proffer a syllabus as evidence of past learning, perhaps in an appeal for an exemption from a requirement in another institution. Lemke (2000) points to a typical classroom exchange in which a student responds to an instructor's question by flipping through a notebook to find notes penned during a previous lecture. The notebook bridges time—the past time of the notetaking and the present time when the notes are consulted. The notebooks served as boundary objects that "materially link[ed]... events across time and space," connecting "emergent practices and goals on several timescales" (p. 281). If notebooks are an example of "meaning-inscribed material objects that afford heterochrony" (p. 281), a syllabus may be an even stronger example.

Writing scholars have recognized the syllabus as a central classroom genre. For instance, Afros & Schryer (2009) examined the intertextual and discursive features, pointing out that the syllabus "mediates the interaction both between students and instructors and between instructors and their colleagues" (p. 225). Giltrow (2002) uses the term meta-genre to refer to genres that direct the writing of other genres, or as Bawarshi (2003) explains it, "sanctions and regulates their use within the activity system" (Bawarshi, 2003, p. 119). In the classroom activity system, a syllabus clearly qualifies. The syllabus is the first point of contact with the activities of the

course, and it establishes the parameters for subsequent action. “The syllabus plays a major role in establishing the ideological and discursive environment of the course, generating *and* enforcing the subsequent relations, subject positions, and practices teacher and students will perform during the course” (Bawarshi, 2003, p. 119, emphasis in the original). Syllabi also guide the planning process for instructors. “Syllabi are artifacts created with specific intentions and goals in mind for users, and… syllabi will act as important mediators between faculty members' intentions and their ultimate classroom practices” (Hora & Ferrare, 2013, p. 245).

As a genre, syllabi share many typical features. Afros & Schryer (2009) started with a list of 17 features and found 14 that were common in their sample. Both their sample and mine attested to the following typical features—course code and description, name of instructor, texts and materials, objectives, course requirements (i.e. description of assignments or assignment categories), course policies, grading breakdown, and a schedule, usually connected to specific readings. The schedule is a core feature, in fact, the one most frequently mentioned by the participants of Hora & Ferrare’s (2013) study, who valued “how it demarcates a list of topics and the sequence in which they should be presented on a class-by-class basis” (p. 233). The syllabus thus serves “as a ‘cognitive map’” that features “the type of content included in a course and its order of presentation” (Hora & Ferrare, 2013, p. 246).

For my analysis, I examined the F19 inventory of syllabi for 34 W-courses, as mentioned earlier, as well as doing a close analysis of twelve syllabi from the ten instructors that I interviewed. The syllabi that I examined ranged from four to twenty-eight pages in length, partly depending on whether they included an appendix of rubrics, scoring guides and other resources, and partly depending on the extent to which practices were standardized in their schools or departments, a point that will be discussed further below.

Once instructors knew what readings they would use, they began to draft the syllabus, often beginning with the schedule. Pamela Sherman described the process she typically went through when building a new course.

> So, basically I start with the readings. That's everything to me. I start with the readings as to what I'm going to assign, you know, which texts, which journals, which books, like supplemental reading, and then I start building the schedule and start breaking down the pages that I want covered and start looking at the topics. Like generally the topics go by week or every two weeks or something and then I search- after I have all the topics done and all the pages done, then I start building in the assignments that are going to be fitting into those weeks: where are we gonna have conferences, where are we- where is the annotated bibliography gonna be due, where- when is the lit review, when is the paper gonna be due. So I build in all of those things and then I start with the lectures and the- that's the part that I always dread because it feels like not I'm not making as fast a progress, you know, like the other part you can kind of be like, 'Oh, look I have a schedule! It's all done,' you know. But the lectures are rather time-consuming obviously to create, and so then I start going to all of the readings and then I start thinking about what else can I add…. So, there are a number of different, I guess, tools in my toolbox that I will bring out in that way, but then that would… kind of get me into the place that I need to be to have a full syllabus.

When Sara Olson redesigned her course, it was the syllabus, once again, that directed the process. As her course was an online course, the learning management system as an interface was also crucial, but it followed from the syllabus. She described the process in the exchange below.

SO: Usually I start on paper on a syllabus and then build my eClass [that is, LMS interface]. If I'm doing an online class, I'll build my eClass from that syllabus. So generally what I start with is like broader areas that I want to cover. So, for example, in this course um- let me see, I'll pull up my syllabus, I have- have it up? Yeah. So, for example I divided the syllabus into different parts, so part one is studying aging, the theory and research behind it, part two is we're talking about physical health and healthcare decisions and part three is the social and economic outlook of older adulthood. So this didn't all- like I've played around with the different sections and different parts but, you know, I first kind of started off with, 'Well, what are like the larger areas that I want to cover,' and then within that be able to build different topics from there, but of course I'm moving things around here and there, and I feel like at the same time as I'm building those main parts that I want to cover, I'm also playing around with like student learning outcomes or goals, you know, if you will like to- um, those kind of go hand in hand

LS: So you're kind of toggling back and forth between the schedule and the learning outcomes?

SO: Yeah, I would say so.

Both Sara and Pamela started with readings that aligned with their vision for the course, but early in their thinking and planning they started drafting the syllabus.

6.2.1 Complex assemblage

As an assemblage, the syllabus collects and weaves together reifications from practices operating at various distances and on various time scales. As Afros & Schryer (2009) note, it is a site of "intertextuality and interdiscursivity" (p. 221). In other words, it is a node that draws

together and connects many texts and discourses—personal pedagogical practices and preoccupations; professional and disciplinary practices, both local and distant; institutional values and policies; and the larger legal framework of the society.

In this sample, for instance, the legal framework beyond the institution can be glimpsed through a boilerplate syllabus statement from the disability support services office. On the page for that office, one finds this message: “Sam York University is in compliance with Section 504 of the Rehabilitation Act (1973) and is dedicated to the elimination of architectural and prejudicial barriers which prevent any qualified person from attending. Sam York University has established Disability Support Services to provide academic disability services according to the provisions of applicable disability law." The federal government’s efforts to ensure equal opportunity for Americans across a range of settings, then, lies just one degree removed from each syllabus.

Another federal initiative that governs classroom practices are FERPA guidelines, which made two appearances in the sample of twelve syllabi from interview participants. One instance was this statement under the heading “FERPA”:

> I will take reasonable precautions to protect privacy on your graded papers. I will have a file-folder box with a folder for each student in the class, and bring it to class. Your graded homework papers can be found in the folder with your name on it. I will keep the box in my office or outside my office door when not in class. This method of paper return is regarded as public access. You will be asked to respond to a printed statement permitting or not permitting the instructor to return your graded papers by means of public access. If you choose not to have your graded papers so returned, you must receive your graded papers from me during my office hours.

The state government also appeared, most notably in education syllabi coded for compliance with standards for licensure, but also in a statement alerting the students that for field observation they would have to undergo a background check to verify that they were not in the state's registry of sex offenders and telling them where to get the paperwork for starting the process.

In fact, it is not uncommon for instructors and students to see the syllabus itself as functioning something like a legal document. For instance, nursing instructor Robin Nelson used this framing when she said, "I tell the students the syllabus is our contract, and this is my contract with you, and yours with me." Courts have ruled that syllabi do not qualify as official contracts (Rumore, 2016). Nevertheless, the syllabus does establish an almost contractual understanding between students and instructor, meaning that it "informs the students and the teacher, protecting both from potential misunderstanding (Bawarshi, 2003, p. 121). Not only does it have this quasi-legal role, but as we can see from these examples, threads from the larger legal framework are often woven into the syllabus.

Institutional reifications also have a high degree of visibility in syllabi. For instance, I have already referred to the writing policy statement that was supposed to be in W-course syllabi. The university dress code was also typically referenced, and some attendance policies made reference to a university policy, perhaps an appeal to authority to add force to the statement. One reification that was probably unique to this campus was the biblical framework map present in four of the twelve syllabi from interview participants and ten of the 34 W-course syllabi in my one-semester inventory. As discussed in the previous chapter, the map came out of the course redesign process that was part of the summer institute. The presence of such a map in the syllabi was not surprising given the religious commitments of the institution, but in

appearance and style, the map made an obvious and explicit connection to the work of the summer institute.

Syllabi may also direct students' attention to institutional resources, each with their own practices and reifications. In this sample, the writing and tutoring centers were commonly mentioned as well as the technical support staff available to troubleshoot issues with access to the learning management system. Two syllabi in the sample had a references list that supplied readings that students might find relevant in their research, and in each case, students were explicitly directed to the campus library for accessing these resources. While no syllabus connected students to all relevant campus resources or policies, as we can see, the syllabus still served as a hub or node for tying together these reifications and practices that were assumed to impinge on classroom practices.

References to disciplinary practices and reifications also work their way into the syllabus. One clear-cut example of this came from Ellen Deere in education, who described starting to use the EdTPA assessment program for preservice teachers as one thing driving course redesign, "like EdTPA, we have to add in the things on edTPA. So I put those into my syllabus." Education and nursing also tagged course objectives with codes that connected back to professional and disciplinary standards.

Syllabi may include a course description taken verbatim from the university catalog, once again connecting back to institutional reifications, but also serving as a site of rhetorical action where claims of relevance and significance may be established. Some syllabi in this sample furthered this goal with an additional statement justifying the course in terms of long-term and professional value. In the following exchange, Sara Olson demonstrated how such statements do this type of rhetorical work:

LS: …so I'll just point out that I noticed here—you had this up on the screen a moment ago—the syllabus, uh, “the multi-disciplinary field of gerontology,” which I did not see on the 2018 syllabus. So, I thought it was interesting that you had kind of defined the field that you're working with in a little bit there.

SO: Yeah, yeah. I mean, I was um- what we had in the 2018 syllabus was just what the course description has had at [the institution] for a while, but I put in to change the course description to this as it is now because the original course description- u-m-m-m I think they were thinking more in terms of, I mean- this was made- this class was originally made when we still had sociology as an undergrad major, which I don't think we do anymore, and this course was primarily taken by, like, social work students and sociology majors, and now it's mostly nursing majors, so (laughs)

LS: Right

SO: At this point it's a very interdisciplinary focus.

Changing course description requires approval for a catalog change, something that it sounds like Sara pursued because she believed that the course needed to be redefined to better match how she viewed the course and what it offered students, including the very large group of students accessing it as disciplinary outsiders. By calling it “multidisciplinary,” she established a truth about the object of study but also positioned students who might think of themselves as disciplinary outsiders to enter as legitimate participants embarking on their own study of the subject.

Another rather obvious way that syllabi connect to disciplinary reifications is through the list of textbooks and other required materials. I have already discussed the role of textbooks as a mediational tool that oriented instructors designing courses and that reached forward in

imagining the learners as engaging the specified content in certain ways. Here I would like to comment on textbooks as a node that reaches backward in time, the complex reifications that underlie the simple syllabus heading “required texts” or “required materials.”

Textbooks have a canonizing effect (Hyland, 2004 & 2018; Paxton, 2007; Richardson, 2004) that offers "a dominant perspective that helps to construct a coherent conception of what the discipline is and what it stands for, an ideological representation of stability and authority" (Hyland, 2004, p. 105). The syllabus helps cement this dominant disciplinary role by placing the textbook in a prominent position. In my sample, of the nine who listed textbooks and readings, seven were positioned on the first or second page of the syllabus. The three syllabi that did not include a heading for required materials were all designed as research courses with extensive one-on-one coaching. For one of these, Paul Hunt’s course, the textbook does play a strong coordinating role and although it was not listed under a formal heading, it made its appearance through this statement, “Your textbook is a manuscript generously provided for free with the condition that you submit detailed constructive comments on the manuscript each class period.”

By situating the textbook as an anchor point within the course, the syllabus connects *this* course and *this* learning experience to an elaborate network of reification lying behind the scenes. Students are at least somewhat aware of this reality and often frustrated by the most concrete instantiation of it in their lives—the cost of many course textbooks. Folded into this cost is the fact that textbooks represent an important investment for publishers, who spend quite a bit to create and promote the texts, for one thing because textbooks are complex in terms of audience. Authors write as if speaking to students but are in fact dependent on an audience of instructors who select and purchase the text from a pool of other options. “Indeed, in all but exceptional circumstances, students only become readers of textbooks *after* they have been

instructed to study them. It is we professionals who evaluate manuscripts, write reviews, peruse catalogs, visit book exhibits, recommend adoptions, and orchestrate the use of textbooks in classes" (Swales, 1995, p. 6, emphasis in original).

As Richardson (2004) argues, the frequently heard question, "Have you done the reading?" positions the textbook as authoritative. Its weight and size, the glossy pictures and array of supporting materials also do so. The physical weight has a metaphorical manifestation. As Johns (1997) points out, "In many classrooms, the textbook is the chief reading source, the single window into the values and practices of a discipline" (p. 46). Textbooks present a reified and unified view that loses much of the dynamic and complex nature of scholarship. As opposed to research articles, "the textbook simply represents an attempt to reduce the multivocity of past texts to a single voice of authority" (Hyland, 2004, p. 105). Thus, the syllabus serves as a node connecting students from *this* classroom *this* semester back to the assemblage represented by the textbook, the larger body of reified knowledge assembled and molded into the textbook account, not just by authors and reviewers but, in many cases, by the full machinery of large-scale publishing enterprises.

Although they do not confer the same weight or occupy the same central position as textbooks in this study, it is also worth mentioning other material tools and technologies interlinked with disciplinary practices that might be listed in the same section of the syllabus. For instance, business professor Brian Sellers stipulated that students have access to Microsoft Excel and Microsoft Word, and chemistry professor Craig Hoffman called for students to purchase a specific type of lab notebook, as well as lab safety goggles, "a scientific calculator and a computer with word processing capability, spreadsheet software, and printing capability." In these two cases, the required materials section included tools and technologies that supported the

instructional process and gestured towards professional practices. Interestingly, LaTeX was not mentioned in Paul Hunt's syllabus, perhaps a sign that it was already becoming less visible for disciplinary insiders.

In this deep dive into textbooks and other required materials, we have read a great deal into a rather small part of the syllabus. But the dense interdiscursivity of the syllabus is exactly the point. Different sections connect to different sets of practices, often in a highly-abbreviated way. So far, we have looked at pieces that connect back to legal frameworks, to institutional reifications and to disciplinary understandings and reifications. In each case, intertextual or other clues made the connections clear. We can also see features that, by their nature suggest a personal point of origin, preoccupations that suggest moments of friction in the past that the instructor hopes to smooth out in the future by codifying in some way. The most common in this sample were statements about technology use. Lying behind these were no doubt past moments of irritation with a student surreptitiously texting or browsing while pretending to be paying attention. These statements at times carefully distinguished between acceptable and problematic use, like the instructor who required students to use the digital practice exercises that supplemented the textbook but prohibited the use of an electronic textbook because of a prohibition on electronic devices in class. But some statements were even more idiosyncratic than these regulations on device use. For instance, one instructor in my sample included a statement on inclement weather, one stipulated that in-class assignments needed to be submitted on standard 8 1/2 x 11 paper, and another included a statement designed to address holiday travel that might cut into scheduled classes or labs.

Some syllabus statements blur the distinctions between the personal, disciplinary and institutional, but still demonstrate the complex presence of other practice and reifications. For

instance, five of the syllabi from interview participants had statements related to "academic ethics" or "academic honesty." These varied widely in length and tone, and none referenced official policy but as one professor made explicit, the institution "is dedicated to scholastic integrity. Consequently, both students and faculty are required to maintain high, ethical Christian levels of honesty and integrity." Lest this be construed as a direct reference to institutional policy, however, he concluded by clarifying that "the statement above does not constitute the complete honesty policy of [the institution] nor the School of [X]. In cases of academic dishonesty the official policy and procedures will be applied." Showing a similar combination of personal and institutional values, three courses had explicit statements related to faith, including this one from a science course: "As an added benefit not generally found in a secular institution, you will have opportunity to develop an appreciation of the work of Jesus Christ as Creator of a fascinating, complex, yet well-ordered world." Other syllabi had sections with statements about professional values, critical thinking, and, in two cases, positive statements about technology. Of these latter, one came from Ellen Deere's education course. Under the heading of "Incorporating Technology," she wrote, "Candidates in this course will use technology as a tool to enhance their own and others' learning process. The professor will also use a variety of forms of technology throughout the course." This statement may have reflected her personal commitment to learning technologies but might also reflect values in the field of education.

As a complex assemblage threaded with reifications, each syllabus reaches long roots into the past. In that sense, we can imagine that there are a number of stabilizing forces. However, as mentioned in the previous chapter, instructors often directly draw on the syllabi of others in designing or redesigning courses, a practice that generates stability within the genre.

The most obvious way that this happens is through inheriting a class, which is also a way of maintaining disciplinary stability, a metaphorical wand passing. This was true of 18% of the participants in Hora & Ferrare's (2013) sample, and, as mentioned earlier, according to my survey, 16 of 20 participants reported inheriting at least one of the W-courses that they taught. One example of the clear linkages generated by inheriting a course came from Craig Hoffman, while showing me the syllabus of the colleague to whom he had passed on the course we were discussing. "But this is actually the syllabus that he's using, and it's almost exactly like mine, so it's very, very similar. A lot of the details are worked out and so why reinvent the wheel?" Hora & Ferrare (2013) also point to the time saving aspects of adopting a previously-designed syllabus when inheriting a course. But efficiency is not the only benefit as individuals are also likely to value the experience of more seasoned colleagues, meaning that as Hora & Ferrare (2013) point out, "newcomers to a group will respect [previous syllabi] as embodiments of group wisdom and accumulated practice" (p. 235).

Directly inheriting a course is not the only way that the genre is stabilized. Instructors may also collect syllabi from other campuses, whether through online searches or through soliciting them from mentors or others in their discipline, which can lead to a convergence of practices. For instance, Sara Olson, who inherited rather than originated the W-course that she taught, had used both strategies:

> I've done [online searches] with other courses when building a course from scratch, I've- I taught a course on international social work, and I had this period where I just, you know, like looked online to see, you know, those that were available like different courses on international social work, seeing what resources they used, different assignments they used, but for this course… since I inherited it from other professors I didn't go through

> that whole process. Instead, with this major revamp of the course that I'm doing I only looked at two social gerontology syllabi… one that one of my mentors… she's taught the… aging and society course, and so I looked at her syllabus and then I also looked at the example syllabus from the new text that we're using as well.

At the time of our interviews, Sara was engaged in doctoral studies, which put her in a good position to bring in ideas and syllabi from this second campus. But whether an instructor personally reaches out to disciplinary peers or whether the process is mediated by the online storage and retrieval, the effect is the same: to develop a tacit sense of best practices and to reinforce and codify these through the syllabus.

Sometimes it is the school or department that consciously and intentionally seeks to standardize practices and codify these in its syllabi. Hora & Ferrare (2013) found that 54% of their respondents reported that their syllabi were developed through a committee process. This is not surprising for data collected mostly from lower division courses in public research-intensive institutions. Given that the institution that I studied is a smaller, private institution, most participants had great autonomy over their syllabi. The two cases where standardization was evident in my sample came from programs that were larger in terms of enrollment and in fields with specific licensure expectations, namely, nursing and education. A typical internal stabilization process, however, might be what Pamela Sherman reported in terms of planning.

> We discuss it in our faculty meetings. Like at the beginning of the semester, we show what we're doing in terms of our syllabus, not because anyone saying, ‘Oh, you can't do that or something,’ but just to give of an idea as to how many pages each professor is assigning, how many writing projects is each professors assigning, so just to make sure

that there isn't one super hard professor and one super easy professor. And we'll also gain ideas from each other, like you said.

Nursing, on the other hand, employed a higher degree of standardization. This extended to the style and appearance of syllabi. As Robin Nelson commented, “Every single School of Nursing syllabus should look the exact same way so a student knows exactly where to go for what content.” Another standardizing feature had to do with the objectives list. Each course objective was tagged with a code that indicated which of eight “role competencies” it fulfilled, as defined by the school, and which of nine “essentials” it matched as defined by the American Association of Colleges of Nursing (AACN). Thus, for instance, the third objective listed in Robin’s syllabus, “Examine rigorous and appropriate research methods through critique of research reports” is tagged with two competency codes and two essentials. The system may have also facilitated mapping courses across the curriculum, in allowing the school to see how each course contributed to the overall vision or fulfills accreditation expectations. However, I did not investigate this possible function.

At this institution at the time of this study, the school of education also housed psychology and counseling programs, which led to an interesting convergence. The syllabi for courses in these two programs showed great diversity in terms of style and appearance. But the school also showed a standardizing move for coding objectives that was similar to that of nursing. Ellen Deere’s syllabus, for example, had objectives coded in three ways—state standards, Interstate Teacher Assessment and Support Consortium (InTASC) standards, and a conceptual framework created by the school. Psychology syllabi did not tag objectives using all of these codes, but they had a conceptual framework that showed a strong congruence to the one of education. Both frameworks identified four congruent qualities of professionalism—that the

student be “a caring person;” “an informed facilitator of learning” for education or “an informed and passionate learner” for psychology; “a Christian reflective decision maker” or “ a scientific thinker;” and “a committed professional” or “a committed pre-professional.” Under each of these qualities were listed subpoints that delineated how the traits might be demonstrated. The wording here also showed strong parallels between education and psychology. For instance, while 3a is identical in each case, “demonstrating intellectual curiosity, critical thinking, and strategic decision making,” 3b is tailored to fit different professional activities but captures similar values across both. Education hopes to see students “planning lessons that incorporate evidence-based practices and appropriate materials” while psychology aims to have students “using theory, based on scientific research, to enhance practice.”

In several psychology syllabi, the framework was attributed to APA recommendations for undergraduate programs. As one syllabi put it, “This course is congruent with the Conceptual Framework for Psychology Programs delineated below, which is aligned, in turn with the APA Undergraduate Psychology Learning Goals and Outcomes.” Seeing the similarity in conceptual frameworks and the APA reference, I assumed that because the programs were united within the same school, education drew from the practices of psychology. When I reached out to the school, I learned that the frameworks were indeed coordinated, but that education’s conceptual framework came first. The department devised the list for accreditation purposes, which later inspired psychology to create a coordinate list, “us[ing]the APA guidelines as a reference point.” By coordinating the conceptual frameworks, the school reified a shared vision of its values and how they sought to foster these in their graduates. This reification then emerged in its syllabi. However, there was an interesting exception that also illustrated the complex circulation of practices and reifications and that was Sara Olson’s case.

As described in the previous chapter, her course nominally fell under education and psychology, though it was cross-listed with sociology and social work. Demonstrating the rootlessness that she described for a course that originated in social work, moved to psychology but largely serves nursing students, her syllabus did not include the conceptual framework. Interestingly, however, it did include wording that showed its origin in social work. This was a "Writing Policy" related to using Turnitin to check sources. Sara's wording followed the wording shown in two other social work classes, except removing reference to the school of social work. Other syllabi referred to plagiarism in various ways, but outside of Sara's course, I only found this particular statement in social work syllabi.

Sara's case was also interesting because hers was the only one in my sample that involved a team of teachers engaged in a collaborative planning process, as was mentioned earlier in the chapter. The process resulted in a standard syllabus, as she described. "Once my course is ready we roll it over to the other instructors. So, basically the only thing that changes is their names on the syllabus instead of mine."

These cases of coordinating and standardizing practices, as we have seen, left behind traces of the original reifications. Lying behind the wording of policies and networks of codes were complex practices that represented circulations within the institution, circulations that often originated in practices beyond the institution—like the activities of professional associations, as in the case of psychology and nursing, and government regulations, as in the case of nursing. Once again, the syllabus can be seen as both a node that connects instructors and students and a complex assemblage laden with multiple histories.

6.2.2 Coordinating time

Syllabi carry expectations that confer affordances and constraints. In some ways, they make design more efficient, but they also constrain choices by imposing policies and conserving traditions. In this way, at the moment of design the syllabus points to the past. But syllabi are constructed for the future, and in fact, are crucial tools in coordinating time over the course of the semester. Syllabi coordinate time in multiple ways. First, the syllabus references interaction points that bring instructor and students into physical proximity for learning exchanges. This is done most explicitly by identifying the time and space for the course, usually on the first page. It is also conventional for instructors to list their office hours. In this sample, six of twelve participants put this information at the top of the first page. One helpfully included a chart of her personal schedule, showing not just office hours but other classes that she taught. Two of the syllabi that did not identify a classroom time and place or lay out office hours involved customized research courses. One was an online course that was largely asynchronous. The fourth was a genuine anomaly, though in this case the instructor listed the class meeting time in his attendance section.

Attendance policies may also play a role in coordinating time as they incentivize attendance or penalize non-attendance. Once again, these imply that the regularly scheduled class time has a high pedagogical value, so efforts are made to emphasize it. A number of the attendance policies in this sample were quite prescriptive. One worth noting came from Craig Hoffman's chemistry lab course, which regulated not only timely arrival to class but noted that "any disturbances during lecture will be regarded as an unexcused absence. These include arrival after the beginning of the period *or departure* of the classroom during the period…" (emphasis in original). Here the policy sees synchronization, presence and participation as extending

beyond the class session as a bounded whole but also bring into view the minutes that make up the longer period.

Only one of the classes in the sample was fully online, but another appeared to have a hybrid type of delivery. In both of these cases, the syllabus emphasized deadlines for digital submissions instead of class meeting times. One of the two defined the course as constructed "in weekly modules that begin on Tuesdays at 0000 and ends [*sic*] on Mondays at 5pm." Digital submission deadlines are examples of instructional routines that are often laid out in syllabi. One such routine was described earlier, the arrangement of Robin Nelson's course schedule to manage the time before, during and after class. This was laid out in the course schedule with columns labeled "Learn Before Class," "Apply B4 Class," and "Apply In Class." The first of these set out the topics along with the required readings and videos, the second defined what is due the evening before the class time, and the third listed class activities and post-class submissions.

Robin's before-and-after class submission routine may have been unique, but it was common for syllabi to establish routines that laid out recurring activities as another way for time to be managed in the course. Quizzes were a common example. For instance, one syllabus in this sample told students that "weekly quizzes will be available in class and on eClass for the student to complete each week" and another noted that "there will likely be a quiz given every day and generally given at the beginning of class." A routine that would seem novel at most institutions but makes sense at this institution involved having brief devotional remarks at the beginning of class. Two of the syllabi in the sample encouraged student participation in the practice. One, under the heading, "devotional thought," informed students, "You may sign up to present before the class a prepared 3 to 5 minute devotion. The devotion will take place at the beginning of the

class period immediately following the taking of class attendance. Credit equal to one quiz will be given." The instructor here encouraged participation by allowing the activity to substitute for a quiz. The other syllabus offered no explicit incentives but encouraged student participation and described the sign-up process. Other routines mentioned in this sample included research lunches, conferencing and mentoring sessions, online forum discussions, and feedback routines that instructors committed themselves to follow. It is also worth noting that late work policies can serve as another time management routine, particularly when they offer a pro-rated system of penalties, as in this example from the sample: "Ten percent will be deducted for every day that the work is late (including weekends). This will be conducted on a 24-hour basis meaning that once the deadline is missed, no matter when within the following 24 hours the work is submitted, ten percent will automatically be deducted and so forth."

Class meetings, office hours and instructional routines establish cycles that govern the way that the course unfolds. More important in coordinating time, however, is the timeline of activities offered by the course schedule or calendar. This is the backbone of the syllabus and likely the part that students most frequently reference. In this sample, nine of the twelve syllabi had schedules, typically a chart format for schedule, though in one case, a list. These were usually by week and, for classes that met multiple times per week (i.e. 2 or 3 class meetings) usually also indicated topics/readings by day as well. Eight of the nine that had schedules were organized primarily by readings. The exception was for Brian Seller's business strategies course, which was organized by the project steps for the case study. Those that did not have schedules in the syllabus either depended on a research schedule, which needed to be customized according to the project, or pointed students to the learning management system for the schedule. The research classes bring the reification-participation interplay back into focus since time here

cannot be imagined definitely enough ahead of time to construct a schedule. Instead, the timeline of practice activities unfolds through the decision-making that comes with participation. But this is an extreme case of a problem that is always present.

Because the syllabus governs course practices and the schedule coordinates the timeline, it is important for it to be up-to-date, but creating a schedule ahead of the semester imposes an artificial stability. The goal is to imagine the course with sufficient accuracy and in sufficient detail to create a schedule that serves throughout the semester. For instructors who have taught the course many times, this may be relatively straightforward. For a new course or for instructors who prefer a more organic, improvisational style, frictions can emerge. Digital tools such as learning management systems allow for ongoing modifications, and yet instructors continue to perceive of the syllabus as a relatively stable printed document that should be ready before the course starts and that will coordinate activities smoothly throughout the semester. The fact that it is not really possible to foresee the future so accurately leads to caveat statements, like this one from Brian Seller's syllabus: "Your professor reserves the right to modify, supplement, and make changes to the course syllabus as needs arise. You will be notified if/when any changes are made." A more elaborate caveat statement came from one of Bruce Ivers biology courses:

> This syllabus is intended to serve as a guide for the outline of the course BIOL-XXX during the winter semester of the [20XX-20XY] academic year. It is tentative in every aspect of its nature. Any aspect of its nature (i.e., content, scheduling, etc.) is subject to change, at any point during the semester, based on the professor's discretion. This flexibility is intended to better serve the needs of the individuals in the course for this specific semester, and will require the cooperation of all members of the class if changes are instituted.

These caveat statements once again point to the perception of syllabi as almost contract-like, but also demonstrate that while the schedule is perhaps the most useful part of the document, it is also the part that cannot be fully established ahead of time.

6.2.3 The W-course syllabus

The distinction between W-courses and regular courses is mostly one of degree since students in nearly all courses write. But because of the understanding that W-courses treat the development of writing skills as a distinct objective, it was not surprising that the syllabi for W-courses usually included important information about how to meet the expectations of the writing assignments that were included. In some cases, of course, instructors provided separate handouts that gave the prompts and laid out the expectations. But in many cases at least part of this work was done through the syllabus. For instance, the syllabi of all the interview participants included at least short descriptions of the major writing assignments associated with the course. Only four referenced the extemporaneous writing:

- Paul Hunt, physics: "Your rubric-guided reviews of your peers' drafts will comprise the extemporaneous writing portion of the course."
- Rick Erhard, religion course: "Extemporaneous writing will take place through note-taking in class and short essay questions at the end of each reading assignment quiz."
- Craig Hoffman, chemistry: "Writing Emphasis courses require both extemporaneous writing (e.g., recording observations or other assignments recorded in the laboratory notebook during the lab period) and at least one substantial planned paper…"
- Robin Nelson, nursing: "There will be a time limit for answering the essay question(s) in order for the student to demonstrate extemporaneous writing ability required by [Sam York's] 'Writing' classes."

Clearly these references are quite brief, but the descriptions of the major assignments were often much longer, and it was not uncommon for instructors to also include checklists, scoring guides or rubrics in the syllabi. To see how common this was, the best evidence comes from the F19 syllabus inventory. To compare syllabi, I coded each as follows:

0 = no information in the syllabus about how major writing would be assessed

1 = have brief lists of expectations and/or general one-size-fits-all rubric

2 = had reasonably detailed assessment information for some but not all papers

3 = had very detailed assessment guidelines or scoring guides for all papers

Using this system, 14 out of 34, or 41% of the syllabi, had detailed guidelines for assessment, 8 out of 34, or 24%, had some guidelines, and 12 out of 34, or 35%, had no information on how the major writing assignment would be assessed. We can see, therefore, that it was more common than not to provide some of this information in the syllabus.

For the syllabi from interview participants, five out of 12 syllabi included rubrics, checklists or scoring guides. These were often very detailed and usually attached in an appendix section. Of the remaining seven courses, I learned that two had rubrics or scoring guides on the learning management system, I was given three as separate documents,[26] and for the remaining two cases, I did not learn what assessment tools were used.

There were two other ways that the syllabus may scaffold writing instruction, according to those sampled in this study. One was to include detailed and prescriptive formatting information as a separate section of the syllabus. This was sometimes duplicated in scoring guides or similar checklists. To capture the flavor, here are a few sample items from the three syllabi in the sample that had this information:

[26] These may well have also had digital versions in the LMS; I didn't verify this.

- For all writing assignments: “Place your name and course title in the upper right hand corner of the first page. When assignments are submitted on paper, staple your paper in the upper left-hand corner.”
- For research paper: “All papers must use footnotes (not endnotes or in-text references). All papers must have page nos. at the bottom center starting with the introduction.”
- For lab notebook: “Following the introductory section of the report, use a two-column format with procedural steps listed out (imperative mode) in the left column with the right column left blank for recording procedural steps taken, measurements and observations, preferably aligning with the various associated procedural steps. Use first-person (I, we, our) point-of-view, past-tense for recording in the right column.”

The other way that syllabi scaffolded the writing process was by breaking down the steps in the process. For instance, some laid out steps for the major writing assignment in the schedule and, of these, some established intermediate “deliverables,” to use the term that Sara Olson used. In one of his interviews, Brian Sellers discussed how the syllabus directs this process.

> We follow that whole hourglass process in it so that I can- for example, I can open up the syllabus and highlight, this is where we've been and this is where we're going and as a-kind of a slide, if you will, and that way they kind of see, ‘Okay, this is the progression, this is where we are.’ And then… so then I can shift from there to where we are in the schedule, and say, ‘Okay, so next time we meet, this is the expectation.’”

This comment shows that Brian constructed the syllabus to coordinate the writing process, and it continued to coordinate the process over the course of the semester.

6.2.4 A tool for redesign

Over the course of the semester, students and instructors referenced the syllabus to check on course policies and to see what was coming up in the schedule. But for some instructors, syllabi were also used as a worksheet for reflecting on what was working and what changes needed to be made. In other words, in addition to serving as a mediating artifact during the instructional process, it also mediated the redesign process. Four interview participants discussed using the syllabus in this way. Ellen Deere mentioned this as she discussed how she redesigned her courses.

> I will sometimes come across different things- that- just in readings and that kind of thing that I do, and I will oftentimes go in and mark my syllabus, my working syllabus that I have. I will mark that in, and then when I go back to teach the course the next time, I take those notes and then I redesign what I need to redesign for the syllabus. Then I go back in, and I look at student evaluations. And I look at those to see if there are some patterns of something that the students feel like I need to change or they would like to see change.

Three other participants also took notes on the syllabus, though one also used the course roster and another sometimes wrote notes on lesson plans. However, it seems as if the syllabus is particularly useful as a space for jotting down notes to use when redesigning the class.

6.3 Other constructed assemblages

6.3.1 Learning management system

I have dealt at length on the syllabus as a complex assemblage that serves instruction and the design process in multiple ways. Increasingly, however, the learning management system has taken over some of these functions. It serves as a point of connection between instructor and

students that can be updated throughout the semester in a way that is challenging to do with the syllabus. Because it can store and embed multimodal content, and because it can serve as both a distribution and a collection point, it offers far more affordances compared with the syllabus. However, for the instructors that I spoke with, the syllabus still seemed to play the more central role in design and instruction. Ellen Deere noted that "I usually start with the syllabus... I go into eClass after all of that's done and make those changes then afterwards… I try to make sure I have my syllabus done well before the semester starts even if I end up making minor changes I still- I keep it in draft form but I have it done. And then I go in and start changing up eClass." In other words, as Hora & Ferrare (2013), noted, the syllabus constructs a "cognitive map" (p. 246) that establishes the boundaries and features of the course. The learning management system covers some of the same features as this map but has not yet replaced it.

Robin Nelson served as an excellent example of how the learning management system and the syllabus worked together. The syllabus for her nursing research class was the most detailed in my sample, and the information there was duplicated and supplemented in a detailed, week-by-week interface on the learning management system. The relationship between the two was close for her, as this exchange reveals:

> LS: And then I feel like for you that the eClass interface is also something that you spend-
>
> RN: [lots of time]
>
> LS: [take great care on]
>
> RN: Oh, yes.
>
> LS: Then talk to me about the way that the two interact with each other, the syllabus and then that eClass interface.

RN: To me, it's like peanut butter and jelly.

LS: Okay.

RN: Now the eClass is on- is the peanut butter that's on the bread, okay?

LS: Okay.

RN: Because there's- there's more there- I have lots of resources.

LS: Ah, okay.

RN: So I- not every single thing that's on my eClass is in the syllabus, like resources I'll-

LS: [Right]

RN: I've- everything that's on the syllabus is in eClass, but everything in eClass might not be- there's extra things.

LS: So, the syllabus plus.

RN: It's syllabus plus.

However, for Robin, the syllabus took precedence: “I tell them syllabus rules… Syllabus rules. If there's a discrepancy between the two, let me know but like we'll go with the syllabus. So, if it says in the syllabus this paper is due this week or whatever, and on eClass if I forgot to, you know, if I move it around a week or two, then I tell them the syllabus rules.” For students, it would be interesting to know which of the two tools best mediated the course or in what ways the two were intertwined in their experience. But for Robin as the instructor, the syllabus took precedence.

Because Sara Olson taught an online course, the learning management system may well have played the main mediating role for students. Nevertheless, she also started her design process with the syllabus. But the learning management system provided a crucial platform for

building the learning experience. For example, she used a number of instructional videos, and she described how she integrated this learning activity with the other course content:

> I have them embedded in- like, every- almost every other week when there's an assignment coming up, a new deliverable coming up, I'll have a library video about choosing empirical articles, how do you know if it's empirical, so the library video is just maybe about like five minutes about, you know, what an empirical article is, or, you know, on a day before we have an assignment due, or on a week before we might have a deliverable due, I'll have something about APA citation, so, you know, so they- um, I'll have resources embedded into the scaffolding of the deliverables as well, so like before they have a major deliverable due I have a resource, whether it's a library video or webpage that they can go to learn more about citations, like they have those embedded into… the eClass.

Having the learning management system is what makes an asynchronous class efficient, but one of the affordances of an online and digital infrastructure is that an instructor can easily and efficiently link to resources available elsewhere. In this case, Sara used links to video resources available in the library. Robin, whose class was also partially online, also made prolific use of such resources. But likely the affordances of the learning management system also impact classes that meet in-person as well. Neither Sara or Robin spoke of these affordances as driving course design, but it is likely that knowing that students can easily access these multimodal resources at any point in time does impact design decisions. Exactly how and to what extent these affordances drive design decisions is a question for other research projects.

6.3.2 Assessment tools

We have discussed the scoring guide prepared by the writing committee and remarked on how rubrics and scoring guides can be attached to the syllabus. But it is worth briefly looking at what interview participants said about assessment tools as part of their design thinking and instructional processes, something we have not really discussed. A first point of interest is that while many participants spoke positively about what these tools did for them, one participant had a more skeptical relationship to them. In her political science and history classes, Pamela Sherman stated that she preferred not to give students rubrics or scoring guides when introducing a writing assignment, as she explained in our first interview:

> Generally, the rubric is given maybe two or three weeks ahead of the assignment being due. I was schooled under professors that didn't really give rubrics, and so it's been a bit of a transition for me to teach at an institution where rubrics are so heavily used and incorporated into the teaching. I'm not against grading with them. I just- I think they're great to grade with. I, uh- it's a little bit of a change for me to think that students should lean so heavily on them because for my time if you had questions, you went to the professor, you asked those questions and you got the guidance that you were looking for versus simply thinking that that information was going to just be provided to you without asking. Does that make sense?

The question appears to be one of directing students' attention in very specific ways versus encouraging students to intelligently grapple with the rhetorical demands of the topic and genre on their own, a prescriptive approach versus an organic one. Pamela emphasized that she encouraged students to seek her out when they get stuck and need direction. In part, her concern

came from her commitment to developing initiative and critical thinking skills that she believed would be demanded in students' professional lives.

> You know, I think where is the curiosity? Where is the initiative to go and seek out the expectations of your various professors? Because your bosses aren't going to give you a rubric as to what they're looking for. You know, the real world doesn't give you a rubric for day-to-day activities, and so I think that there are times that I think rubrics are necessary. I just don't think that it's a regular occurrence.

Over time, Pamela began to accede to student requests for more guidance. She started using rubrics or scoring guides a little more than she had at first. But it was still a question that she was grappling with when we talked about it during the second interview.

> And so, there's this transition that takes place I think between 100-, 200-level classes and 300 courses, where students really have to play more of a substantial part in getting information. And so that's made me consider, do I provide rubrics on all of my assignments? Do I provide midterm study guides, final study guides? Because you should know what's gonna be on the exam. You are in the class all semester and I can tell you my state universities or [in my master's]… never provided study guides. And so, am I doing a disservice to them by providing that information? Am I making it so that they don't have to think for themselves? Or am I being a better professor than I had? I don't know. And so that is a point of contention for me as well.

The question of how directive to be, of when and how to provide tools like scoring guides or rubrics, continued to be a design input for Pamela. She constructed and used these types of tools, but the practice was not stabilized. In fact, it seemed that Pamela preferred to leave more up to

participation and less to reification when it came to using assessment tools as a coordinating artifact.

A point of contrast came from Brian Sellers who used a detailed checklist for guiding students through the case study project. For him the tool was shaping rather than constraining. The “grading guide” given to the students included the instruction to “apply the following process to conduct the analysis and to develop the strategic plan.” The first six categories on the checklist then followed the parts of the paper, in order, laying out the essential rhetorical moves for each part. He described how the structure of the paper served to shape the thinking.

> I want them to follow that structure for the case. It is a step-wise set of logical progressions that if you were to look at a case analysis and see it kind of like an hourglass if you will, where if you're looking at an organization, you look outside the organization first and see what pressures that organization is facing from outside, so, yes, that's broad. Then you're looking at the organization itself and how it- how what the organization is doing is aligns with the outside pressures, and so then it comes down to a very narrow point and that is not every business is perfect, and there are problems, and these are problems that, that you need to be the logical progression of your analysis and state that this is an issue for the company, that it's not taking advantage of something in the environment that represents an opportunity or it's not avoiding a certain threat in the environment that from based on your research and your analysis and so here is the problem that the company is facing, or could face going forward because it's not taking advantage of opportunities or avoiding threats. That is the problem statement… And it broadens out and they have…to come up with three strategic alternatives that address that problem, and they choose one among those three that they consider to be the optimal

> choice among those three and then talk about the implementation of that choice, strategic- the tactics necessary to carry out this strategic change. So… that's why I see it as an hourglass. You come to that problem and then address the problem.

For Brian, the scoring guide was a mediational tool that was first constructed and then structuring. He designed it to direct and coordinate the writing process, which in the classroom setting, also guided the instructional process.

Brian also valued the scoring guide that he received from the English department chair, a version of the one promoted by the writing committee, though perhaps not in such powerfully directive ways. He found it helpful in his own writing and believed it had led to more confident and consistent grading of his students' work, as he explained:

> Well… I figured that the students should be familiar with it after taking English here. That's a structure that is taught… in their beginning classes in critical thinking, and this is a senior class, it's the capstone class, and I expect them to be able to communicate in writing as well as verbally, and so, that was the reason for going with this. But I also had a selfish reason, and that is that I wanted to be able to read and evaluate the writing. And prior to implementing this, I had a difficult time evaluating just the writing in general. I didn't have a real foundation for the assessment I was giving. It was just a seat-of-the-pants subjective assessment, and- so this provided more structure, allowed me to be able to assess the writing in a more objective way.

The scoring guide filled a gap for Brian and thus became part of his practice.

In comparing the cases of Brian and Pamela, the discussion can be translated into a question of time allocation. Brian found the scoring guide saved him time as he graded. By directing the writing process, the case study checklist likely saved time for students as well. On

the other hand, Pamela wanted students to consult with her when questions arose during the writing process, which might mean scheduling an appointment or at least taking the extra time to head over to her office. For her, a rubric was seen as a shortcut that might save time but at the cost of fuller understanding and deeper engagement.

Brian's use of assessment tools calls our attention to another important finding. A benefit of adopting a version of the standard guide for an upper division course was to build on prior knowledge and facilitate transfer. On the other hand, many genres—even writing assignments that have not achieved genre status—specify rhetorical moves to fulfill their purpose. There was a tradeoff, then, in terms of using the standard guide or constructing an assessment tool unique to the assignment. There were benefits in each case. Students were assumed to be familiar with the concepts from first year writing. Thus, if the professor of an upper division course spoke of "unity" or "support," the student would presumably understand the reference. Ellen Deere, like Brian, mentioned this point as a reason for adopting the standard scoring guide to use with the shorter essays in her class: "The thing that I think helps the students is they are familiar with the writing guide, most of them, I think virtually all of them unless they are transfer. So… it looks a little bit different in eClass, but it is the same thing." Ellen appreciated the standard scoring guide for the short papers, but for the philosophy statement, she used a rubric she had developed. The rubric, like Brian's case study checklist, listed the parts of the paper and what each was intended to accomplish within the larger paper. For instance, the first part should be a "general statement about why you chose education," followed by a section looking at some classical thinkers, contemporary influences, personal worldview, and integration of the school's conceptual framework, before turning to a couple of application sections, "how the impact of others will guide you in making decisions," and "how will your teaching philosophy address the diversity in

your classroom." It is clear from both Brian's and Ellen's accounts that instructors appreciated the standard scoring guide, but when a writing assignment was structured around a set of rhetorical moves driven by the particularities of disciplinary or professional purposes, the standard guide no longer fit the need. As earlier chapters have demonstrated, instructors first considered the goals and purposes of the writing assignment in terms of disciplinary socialization and long-term professional goals. If an assignment was judged to match the fuzzy prototype of a general essay supported by research—what I have called a "research-based essay"—then the standard scoring guide added value as a ready-made, time-saving tool. Perhaps the disciplinary specific section was valued in these cases, but, in fact, for much disciplinary writing, the writing was ordered by conventional rhetorical moves, and instructors wished to direct their attention to how each part of the paper served the whole. In these cases, it made sense to customize the assessment tool to match the purpose.

Corroboration of the point came from multiple syllabi and interviews. Two participants did apply the standard rubric to a major project with disciplinary features—an art manifesto and research report for physics. But the research writing courses in biology and chemistry scaffolded and assessed the writing in terms of sequences of rhetorical moves. While neither used the acronym, both followed the IMRaD format (introduction, methods, results and discussion). The assessment tools for the papers Robin Nelson assigned in her nursing research course and Sara Olson's literature review also called for a sequence of rhetorical moves.

In fact, Sara Olson's scoring guide had played an important role in the course since she inherited it from one of her mentors a number of years ago.[27]

[27] In the interview she referred to her assessment tool as a "rubric" but it is probably better described as a scoring guide.

> I received a rubric for- that she uses for research papers in [one of her courses]. So basically, it's introducing students to the literature review process. So yeah, I originally got this from [her] and since then we've kind of developed it more. It seems like almost every year I'm tweaking it too, you know, based on student feedback, and my own reading of what's going on in the course… I was a graduate assistant to [her]. I'd seen her use this rubric before so I was familiar with how she had used it and then when I inherited the course, I'm like, 'Ah, this looks familiar!'

While the scoring guide proved to be well-suited to the course, over time Sara tweaked it to better meet the needs of students. In fact, she redesigned the course between our first and second interviews and tweaking the scoring guide was part of the process. The exigence came from issues that cropped up repeatedly in student papers.

> So, it's basically in response to when I was grading student papers over the summer, you know, I was just thinking through, well, what's coming out as, what are some of their main hang-ups? Like, what are common sources of feedback that I've been giving them anyway? Why don't I just include that in the rubric? So, I did that… I realized, like I'm saying this a lot in their comments, if it's not in the rubric maybe they're thinking they don't have to have- you know, like I say it in their announcements, but they're probably following more closely the rubric than the announcements. So, yeah, just putting those kind of things in there, and then changing around the wording a little bit in the actual rubric itself.

Because, as previously mentioned, Sara Olson led a teaching team that used the same syllabus and instructional practices, she then reviewed the draft of the scoring guide with her co-teachers, one of whom had "been really vocal about improving the rubrics," which was also "a big factor

for me in actually sitting down and changing it." The collaboration around tweaking the assessment tool showed its centrality as mediating expectations during the drafting process and in assessing the final draft.

To summarize, then, it is clear that in many cases instructors used checklists, scoring guides, or rubrics to scaffold the writing process as well as to assess the final draft. Therefore, these mediational tools were often designed to point students to the rhetorical moves that drove the structure of the piece.

A final point that I want to make in this section perhaps follows from the previous point. Given that many instructors also valued assessment tools for their ability to scaffold the writing process, it is not surprising to find that some applied the tools formatively as well as summatively. For example, Ellen Deere remarked, "I use the same rubric to give them feedback as they go, and so they can, you know, they can revise it according to the rubric." Likewise, Ariana Harris said, "I give them a rubric. When they turn in the first three pages, I grade it, and I stick a rubric in the front, I attach a rubric in the front, and I give it to them, and I say, 'That's the rubric.'" Craig Hoffman used his assessment guide as a mediational tool during conferences.

> I also have very detailed rubrics for grading. I have graders and they can grade a lot of the technical stuff. In fact, I have them grade a bunch of the technical stuff. And then, the narrative part, I have them look for a few things in the narrative, and then my role is in the conferencing. And students can bring their work after it's graded or before it's graded, either, you know, whatever; it's kind of their choice.

In other words, for Craig, as for Ellen and Ariana, the assessment tool likely scaffolded the writing process as it did for many colleagues, but they also directly used it to give the students preliminary scores as part of the coaching process.

6.3.3 Student evaluations

Before concluding this chapter, I want to discuss one final mediational tool that we might imagine would have some impact on the design process, and that is student course evaluations. Student evaluations represent an exchange between students and instructors, anonymous and mediated by a digital interface. In a quote earlier in the chapter, Ellen Deere said that she turned to student evaluations to complete the syllabus after working from her notes from previous semesters. Three other instructors mentioned evaluations during their interviews. Two of these referred to specific comments that they heeded in redesigning a course, and one mentioned positive feedback suggesting that students found the strategies used in the W-course effective. Survey data suggested that feedback from students was modestly helpful as a design input, with four of twenty participants, or 20%, selecting it as one of the factors they believed had significantly influenced the design of assignments. However, this was on the lower end, tied with other inputs including brainstorming about design ideas and ideas from instructors' own writing experiences. When asked to select the two most significant from the list, only two out of twenty participants selected feedback from students, which was tied with two other options for the bottom position. Given that the question wording allows the feedback to come from in-person interactions with students as well as formal course evaluations, it seems evident that course evaluations were not very impactful for most instructors, a point with which other researchers concur. Spencer & Flyr (1992) found that less than a quarter of the instructors in their sample referenced evaluations in planning future courses. Other reviews of the literature also concur that course evaluations have a limited impact on instruction practices (Cohen, 1980; Spooren, Brockx, & Mortelmans, 2013).

In fact, evaluations link back to institutional record-keeping and administrative decision-making and are not necessarily constructed by the instructor, meaning that the tool might be better defined as a structuring rather than as constructed artifact. Whatever the case, as the terminal moment of student-instructor contact, we can still see these as the concluding artifact of the instructional process, the genre that comes at the end of the line.

CHAPTER 7

CONCLUSION

Even at their most mundane, literate practices are deeply situated, driven by the logics of institutional practices and systems of activity, and shaped by individual socialization across multiple settings. It is this complexity that makes these practices fascinating. Design in any setting joins brain to world in a nexus where sense beckons to emotion, desire bumps into policy, tools leverage against raw materials, and the present glimpses the future. Design, we might argue, is the natural playground of human endeavor, the nexus of every imagined intervention in practice. In this study I asked what this looked like for one set of practitioners laboring in the trenches of one institution at one point in time. What they told me, the data they gave me, revealed few sweeping innovations and no startling interventions. And yet the data proved surprisingly rich in illuminating the inventional process of writing assignments as rooted in the entangled ecology of academia and disciplinarity.

In the past decade or so, writing and rhetoric scholarship has increased its attention to the circulation of material objects, of examining how matter *matters,* in both senses of the verb. We are also coming to notice the effects of time–on spaces, on people, and on structures. The longer trajectory of circulation is increasingly visible in studies of writing beyond the academy (Brandt, 2015; Starke-Meyerring, Paré, Artemeva, Horne, & Yousoubova, 2011) and across the lifespan (Bazerman, Applebee, Berninger, Brandt, Graham, Jeffery, ... & Wilcox, 2018).

Extending our attention beyond texts that are written and individuals who write across the spatial, material, and, increasingly, temporal dimensions of writing has offered fruitful new understanding of what writing means and does. In this expanded field, theory directs us to examine certain data, and that data opens spaces for reformulating our theoretical conceptions.

Phelps (2015) describes the interplay in her discussion of theory. Theory "works as a metaphorical transformation, in which the new way of 'seeing' the phenomenon recruits an entire new vocabulary as 'terms' for understanding" (p. 5). At the same time, "data can spark conceptualization," (p.7) which then can be tested with "thought experiments that trace the logical and terminological implications of concepts" or examined against empirical data (Phelps, 2015, p.8). With this dissertation project, I began with an empirical project in mind, but very quickly became fascinated by what the practice suggested in terms of theory and then examining how the data and the theory illuminated each other.

A concept that came to shape the entire study early on involved the structuring effects of time, in both its linear and recurrent aspects. This enlarges on the principle of dynamism (Berkenkotter & Huckin, 1995) that animated the discussion of rhetorical genre. Graham (2020) hints at this dynamism in his discussion of genre-ing as "the processes of structuring activity" that directs "situated action" (p. 73), processes that yield episodic perceptual stabilizations that direct future action. By noticing the cycles of time, we make sense of the recurrence within the processes. We see, for instance, how the recurrence of semesters is essential to the emergence and evolution of the syllabus and how robustly this reality shapes the way that instructors envision design. Examining the role of time in recurrent cycles and noting how such cycles allow the emergence of temporary stabilizations, then, illuminates the richness of mundane everyday practices, such as the redesign of a frequently taught course.

But time also involves a linear act of becoming. This feature of time generates the embodied history I have theorized using the concept of *historical body* taken from Scollon & Scollon (2004; 2005), an individual trained to act, think and design as, for instance, an educator, a nurse researcher, and a person who grew up observing collaborative teamwork in nursing

homes. But human bodies and memories are not the only coalescences in the system. Systems of activity, social formations, and cultural understandings shift into congregations and formations that act together stably enough to acquire attributions of agency, to become *assemblages* and when labeled, achieve the status of *reifications*. More intentionally constructed formations like institutional structures and mediational tools are also reified and, when the black boxes are opened, demonstrate that they too are assemblages. Thus, we see writing committees and psychology departments, syllabi and rubrics, typesetting languages and lab notebooks. Historical bodies, assemblages, reifications all represent stabilizations in time, though with varying levels of stability.

Thus, the value in this project comes, in part, from minute attention to a particular set of practices followed at a particular institution, from which we can extract insights about how instructors of writing in the disciplines tend to be influenced in particular ways. But the synthesis of theoretical concepts applied to and emerging from the data can extend our toolkit for investigating the material, semiotic, social—and yes, temporal—dimensions of practice.

In chapter 3, Cycles of Design, I examined the ways that academic time cycles shape the practices of instructors in the design of writing assignments. The data showed instructors designing for the semester, which is the core time cycle for design work related to undergraduate instruction. The design work of these instructors was more often updating and tweaking a familiar course rather than designing a new one. Even so, as they designed for each new iteration of a course, instructors kept in mind the curricular trajectory of the students, the classes they had taken and those they had yet to take. Further, some instructors also directed their design work towards the longer arc of program curricula. Designing for the semester typically meant mapping content and assignments across the weeks perceived as making up a course and within the

individual class sessions that provided synchronous gathering points in a complex timescape, the most potent opportunity for instructors and students to play their complementary roles in the learning process. The larger administrative processes of the institution extend over an academic year, and this annual cycle in this institution, as elsewhere, underlay the curricular sequences. These academic time cycles proceed alongside other time scales—seasonal and biological rhythms, daily routines, news cycles, tax years and more. The interconnections of time cycles can create conflicts, as instructors reported here, and they can offer opportunities. Folded into the complex rhythms and fluxes of the time cycles that contain the work of design are the time cycles generated through the work of design, such as the project cycles associated with major assignments or rounds of grading. This chapter argues that when scholars pay attention to the time cycles that shape practices, we will also better understand the full richness of our ecology, or as May & Thrift (2001) would have it, our *TimeSpace*.

In chapter 4, Lived Experience in Design, I described how time shapes professional and personal identities and habits, which, in turn, shape practice. The concept of *historical body* provides a helpful tool for conceptualizing how lived experiences build memory and habit as a resource for practice. In terms of the design of writing assignments in the disciplines, the strongest effect here came from instructors' own disciplinary experiences, and the most salient of these was graduate training. Drawing on their own experiences, the experiences of their peers and their students, instructors imagined what their students were likely to encounter in disciplinary spaces, and they then constructed writing assignments to foster the thinking strategies and disciplinary practices that they had observed, experienced and come to value. Writing assignments scaffolded the socialization process from one step to the next in the curricular trajectory but always with an eye towards the arc of time extending into the imagined

future. The paper required in nursing exposed students to scholarly research, but it also explicitly showed them how this research informed clinical practice. It inculcated the ability to go to the scholarly literature to answer questions about practice. Would-be teachers could metaphorically or even physically carry the philosophy of education statement as they went into hiring interviews, as a statement of their beliefs about education and educational practice. The researched-based essays and museum journals used in art history papers taught the powers of observation and added an analytical component to create a meta-awareness of the artistic enterprise and the ideological or worldview foundations for works of art. The case study in business taught attention to the ways that the business climate and trends impacted a specific industry at a specific moment in time and led to specific interventions to ensure business survival, and ideally, growth. Asking the question of how instructors in writing across the curriculum classes balanced the writing goals and disciplinary goals ended up revealing something different. Because writing serves the discipline, because disciplines at heart represent situated literacies, for many instructors, there did not end up being a conflict between the two goals. On the other hand, we saw Brian Sellers in his revised approach to the business case study allocating some days for conferencing on writing while focusing on textbook content on other days. I did not have the opportunity to follow up with Brian about how this approach compared with his previous one. Yet we can imagine that because the case study integrated the concepts of the course, even here disciplinary content became entangled with writing goals.

The last two chapters of analysis, Ecology of Design and Practice in Flux, examined how complex and heterogeneous elements combine in a juxtaposition of time scales with volitional nudges to create assemblages and that these assemblages, these gatherings of practice, proceed as perceptual units, as reifications. Some assemblages are shaped, in part by acts of design, by

decisions of committees and founders, of innovators and institutions. Others—like pandemics and nuclear accidents and buying bubbles—snap into place as a concatenation of unintended consequences. When formed and named, these become black-boxed, acting as units within a system or ecology. Some reifications in this case—such as the institutional writing policy and course evaluations—were designed as helpful forms of orientation and feedback but had little impact in practice. On the other hand, schools and departments had a significant impact, though the impact varied. All afforded serendipitous interactions between individuals whose experiences with shared practices added great value while some offered the added influence of standardizing practices. Schools and departments also arranged the transfer of course responsibilities that led to long-term stabilities in practices. As mediational tools, textbooks and syllabi played crucial roles, partly because both necessarily represent complex histories of practice and the actions of many people, often spread across months, years, and decades.

Taken together, the data offer several takeaways for WAC researchers. First, course planning, including selecting, modifying, and devising writing assignments, can be seen as design work. Further, not only do instructors design at the course level, but the design work of some instructors takes place across, or at least with an eye towards, the trajectory of a program or track. This is likely to be true of faculty whose participation extends across courses within a program or track or who are part of discussions and decision-making within a department or school.

The design of writing assignments also offers a nexus for noting how pedagogy meets curriculum in the general sense of designed sequences, whether across a program or within a course. As I have noted, looking at the participation-reification interplay can be productive in explaining the practice setting. To see the importance of examining design as a nexus, consider

that, as Phelps (2016) noted, “a curriculum is designed and/or designable” (p. 4) while pedagogy involves “an ever growing and partly tacit body or repertoire” of practice “that teacher practitioners use to create and sustain the learning environment” (p. 21). In other words, curriculum is the ground, or reification, set against the figure of pedagogy, which involves enskilled and equipped participation within the ecology. We also see the historical body as part of pedagogy, an aspect that brings in past time. But participation—pedagogy—looks at practice in the rolling present and beyond that horizon, employing a curriculum that is “is intentional and future-oriented” (Phelps, 2016, p. 4). The point is, design as a concept brings into focus this fulcrum of acting in the present with an eye towards the future.

Another takeaway that extends across all three chapters has to do with the formative role of time and time cycles—on instructors as well as students, on practices and tools as well as people. Attending to time is a methodological move. The disruptions of the digital made visible the materialities of writing. When keyboards and screens became interesting, it allowed us to notice pens and paper again. Similarly, attending to time in its recurrences and the perceived stabilizations that form in its wake allow us to make visible things that might otherwise be merely scenery. We come to see, for instance, that the semester has its internal constituents, and that instruction is chunked within these taken-for-granted time slots. In other words, for me, bringing in time proved not only a methodological move but also generated findings about time—for instance, the centrality of the semester as the fulcrum around which most design work was situated but also as a container for other embedded cycles that also became relevant in moments of design—weeks and class periods, most notably.

Recalling the variegated textures of the timescape reminds us of the complexities of the full landscape of practice, to return once again to our familiar spatial metaphor. Even within this

institution with its relatively stable WAC practices, we saw multiple currents of influence, connecting tools and structures and bodies, forming assemblages and threading them together across different scales in the institution and beyond it. Each of our sites of practice involves a nuanced and variegated ecology with some orderly arrangements, some surprising juxtapositions and some swirling eddies full of flotsam and a bit of jetsam. By lingering and tracing some of these, we defamiliarize the landscape in productive ways.

7.1 Implications for WAC practices

Some practices on this campus are reinforced by other sources as relatively typical. This means the analysis has implications that are familiar but bear repeating. One thing that might be less usual was the stability of the WAC practices in the institution examined here, including a WAC policy had changed little in the last four decades, generational and mentoring relationships between instructors, instructors who continued to teach courses over a number of years, and a relatively stable campus climate in general. On the bright side, the school demonstrated its commitment to ensuring that students took two writing-emphasis courses in their field and at least one outside of it during the course of their undergraduate program. On the other hand, instructors and WAC leaders seemed largely unfamiliar with the growing body of WAC scholarship that might have revitalized and enriched their practices. While there are benefits to institutional stability, an obvious recommendation would be to look for input points for positive change, in particular for contributions from WAC scholarship, for example, greater awareness of Writing in the Disciplines (WID) as distinct ways of knowing and as sites of genre formation (Carter, 2007; Nesi, & Gardner, 2012), and greater attention to transfer from first-year writing to disciplinary writing (Driscoll, Paszek, Gorzelsky, Hayes & Jones, 2020; Nowacek, 2011; Yancey, Davis, Robertson, Taczak & Workman, 2019; Yancey, Robertson & Taczak, 2014).

7.1.1 Hubs of practice, nexus of change

Any system will have multiple points where change can happen. Newcomers, whether administrators or faculty, can be agents of change, for instance. But it also makes sense to identify productive nodes or hubs of activity as points where ideas and practices can enter and circulate. For instance, in the campus studied, a node that had proved fruitful for circulating new ideas was the lunch meetings. For one thing, as noted, these meetings were uniquely situated in space and time for cross-disciplinary interactions, making them a fruitful sharing point for ideas. They encouraged interdisciplinarity and innovation because most presenters were faculty peers. The meetings also offered a point where ideas could enter from outside, whether this came from the center for teaching excellence staff, instructional support teams like the writing committee, or faculty members who were themselves staying abreast of innovation at other sites.

Continuing discussion of nodes for innovation, a possibility for this campus might be to make the writing center the hub of campus writing practices, and the director a go-to person for not only students but faculty. The writing center director cannot be expected to have expertise in the genres and expectations of every discipline. However, the writing center page on the website could add links to the WAC Clearinghouse, and the director could call attention to these resources during the application process for a W-course or during training sessions. The writing center might also have a mechanism for collecting feedback from faculty to give the director and tutors greater awareness of disciplinary practices and to offer suggestions of how the center might better support these practices. Each individual in the envisioned assemblage would play a role in fostering writing practices, each with a different though partially-shared knowledge base. The director of the center, W-course instructors, and tutors all might contribute information about writing development in general and how it was unfolding for specific student writers. The

writing center could then serve as the hub through which communication flowed. The point is, the present node for W-course information, the “forms for faculty” page only represents a storage spot, whereas the writing center could afford a potential hive mind and thus, a node for innovation. For instance, if the director of the writing center made it a priority to connect to the wider currents of WAC scholarship, she could direct that flow to specific individuals or at least ensure its possible circulation. In practical terms, as noted, this could happen by ensuring that the writing center webpage had archives of and links to resources, by providing a collection point for collecting data about disciplinary writing practices on this campus, and by the director continuing to share information in lunch meetings and through faculty training.

Outside of this campus, the WAC Clearinghouse serves as a productive hub for circulating ideas, linking campuses across North America and beyond, to better improve the circulation of WAC scholarship to those who might put it into practice. A positive finding from my interviews was that participants appreciated learning more about effective WAC practices, and thus making them aware of Clearinghouse materials might be valuable. The hub exists, but disciplinary practitioners need to be connected to it. To reiterate the larger principle, we can intervene within the system to make productive change more likely if we notice the flow of ideas through the system and identify which nodes are already productive, which could be made productive and where gaps or broken links exist.

7.1.2 Honoring organic practices

Within writing studies, scholars have grown increasingly interested in the complex ecology of writing across the curriculum, in the workplace, on digital spaces. Looking at the design of writing assignments, as in this study, again shows writing as deeply situated, intertwined with practices, cultures and habits of argumentation. Thus, an implication that

emerges from these findings is that because writing is intensely situated, interventions need to honor rather than replace organic practices. One way to do this is by accommodating diversity in assessment tools. For instance, if standardized assessment is a goal, as for this campus, the tool needs to be broad enough to account for the full range of academic genres. Assuming that all academic writing projects are thesis-driven essays based on research eliminates numerous common academic genres and constrains innovation.

Honoring the richness of organic practice also means continuing to call attention to all the ways that writing is performed within and across disciplines and gently pushing against the myth of generic "good writing" wherever it pops up, including in English departments and among administrators. First-year writing instruction needs to gesture towards this complexity, and campuses need to retain if not improve WAC initiatives. But this also means that writing in the disciplines as understood by the practitioners of those disciplines needs to be respected. Innovation will tend to be driven by changes in practice, not urged from the outside. Melzer (2014), frustrated by the lack of expressive writing in the disciplines, seemed to undervalue the ways that writing did disciplinary work. As writing scholars, we need to better understand the meaning-building practices in disciplinary spaces and suggest interventions that build on these rather than seeking to replace them. A good starting point might be writing to learn activities because these are low stakes, do not replace disciplinary writing experiences, and are endlessly adaptable to meet disciplinary goals.

7.1.3 Leveraging the benefits of writing

WAC initiatives seek to support and enhance the writing that is already being done, as mentioned above, but an unintended consequence of designating some courses as writing courses can be the implication that writing may be left out of the other courses. Of course, writing is

already pervasive, but expanding the spaces for writing—for reflecting on and engaging ideas—is a powerful pedagogical intervention. One instance of the unintended side effects of the W-designation came up in one of my interviews. An instructor mentioned teaching disciplinary writing in a course without the W-designation but after students complained, he decreased the amount of writing. Avoiding this kind of problem involves helping instructors and students to see writing as already interlinked with all knowledge practices, encouraging instructors to be more explicit in demonstrating the relationship between writing and knowledge-building within the discipline, and fostering more meaningful and relevant writing to learn opportunities in courses that are not W-courses.

Not seeing or valuing small amounts of writing, tucked into surprising locations, is part of what has led some to erroneously elevate an idealized generic writing ability. But it can also lead to coupling writing with assessment, with the impulse to let no writing pass without checking the commas and sentence structure. But, as writing scholars have long recognized, writing as engagement with ideas (Emig, 1977; Herrington, 1981) offers powerful benefits for learning without the need to police students' prose. The WAC initiative of the campus studied here linked its extemporaneous writing requirement on this campus with writing to learn, but it appeared to be underappreciated and underutilized, a lost opportunity. Often instructors used quizzes or essay questions on exams to fulfill this requirement. An encouraging exception in the data was the chemistry professor who invited students to respond to reflective prompts in their lab notebooks, a good opportunity for writing to learn. As campuses seek to improve their teaching practices with new technologies and more active learning strategies, I hope that writing scholars can promote writing to learn strategies but also cheer on versions invented by our disciplinary colleagues, whether embryonic or fully developed.

7.2 Filling in the gaps

There remain gaps in this study that should be addressed with additional research. Entirely omitted from this study was student uptake within the ecological framework. As Phelps (2016) notes, students have agency in the "pedagogical enactment" of design, given that the "student's learning can't be dictated or determined by the design for learning planned and enacted" (p. 12). Further, Phelps points out, as an imagined audience, students exert some passive agency on design, which becomes active when the real students swing into action and as their actions are observed, their products are assessed and their feedback is folded into future design work. While it is true that other scholarship has looked at the experiences of students as they acquire the practices and genres of writing within new disciplinary settings, we have rarely examined uptake and learning as design nodes and as a feedback loop for further design. Further, even without drawing on the concept of design per se, it would be meaningful to enlarge this study to see how the academic time cycles impact student experiences, the extent to which the future imagined by their instructors aligns with their own vision, their understanding and uptake of academic genres, and how mediational tools such as textbook, syllabus, learning management system, and assessment tools structure their experience with disciplinary writing. In other words, while the field has examined students in their experiences of transfer (Herrington & Curtis, 2000; McCarthy, 1994; Nowacek, 2011; Yancey, Robertson, & Taczak, 2014), which certainly includes some ecological elements—we have not tended to look at how the ecology of their experiences extends beyond academic contexts, though Roozen & Erickson (2017) can be cited as an exception.

Another question worth exploring further involves the problem of innovation. One finding in this study was that on this campus at least writing within the disciplines (WID)

practices appeared to be quite conservative, driven more by inculcating the traditional values of the discipline and its conventional practices, than by leveraging innovative pedagogy. Tardy (2016) and Thaiss & Zawacki (2006) have looked at the willingness of disciplinary practitioners to allow students to innovate in academic genres. It might be interesting to explore the relationship between writing to learn (WTL) strategies and willingness to innovate. A similar question would be the impact of an awareness of new media genres on innovation in WTL strategies, and ultimately, on WID practices. To put the question in larger terms, what forces tend to drive change in WID practices and genres? How does an ecological framework make nexuses of change visible?

A final question that captured my interest involves the role of learning management systems versus syllabi. A related question involves how the adoption of the LMS as instructor-student interfaces is changing practices. Is the LMS, for instance, taking over some of the roles of the syllabus? How are syllabi changing as a genre now that we also use the LMS? How does the inevitable duplication between LMS and syllabus affect instructors and students? How can instructors maximize time and efficiency when designing and constructing each tool given the duplication? Does the duplication complicate communication for students who find so much content spread across two interfaces daunting? Or do they appreciate the ways that the LMS supplements the syllabus? Is one of the two is their preferred reference point, or does this vary depending on learning style, experience, or other factors?

7.3 A theoretical toolkit

Geography and other social sciences have begun to see the fruitfulness of looking at complex practices through the interlinkages between space and time (Jarvis, Pain, & Pooley, 2011; Schwanen, & Kwan, 2012). Spatial metaphors have been common in writing studies

(Clary-Lemon, 2015), but we are becoming aware of time as well. Just as looking for the material in practice offers a helpful heuristic for seeing a fuller ecology of practice, looking for the tracks of time, both recurring and linear pasts, directs our attention powerfully to features of life and practice that would otherwise escape our attention. Such attention can serve writing scholarship in several currents—first-year writing, WAC, writing in the workplace and writing across the lifespan.

What these concepts allow us to do is open the black boxes, to see underneath the smooth surface of the humming machines of the social world. "The sociological research enterprise," Becker (2014) argues, "what it consists of, and what it produces [is] black boxes, opened up and described, nested one in another, connected to each other, accepting inputs from and providing outputs for each other—and no end of boxes and processes in sight" (p. 94). In his book on the heuristics of social science, Andrew Abbott (2004) tells us that "science is a conversation between rigor and imagination" (p. 3). New concepts, such as the ones that I have argued for in this study, provide us with additional tools to spark the imagination, to see things we have been missing and to make new discoveries. "This discovery side of social science is more systematic than we think. Social scientists use gambits of imagination, mental moves they employ to hasten discovery… We need heuristic because, as I said, social reality often resists the charms of methodology" (p. 4). Describing the social world, says Abbott, always means making some things focal and allowing others to remain in the background. But challenging what we make foreground and what we make background can be a fruitful heuristic move. Examining the cycles of time is such a tactic.

Besides offering affordances for writing scholarship, I also hope that the theoretical framework developed in this study can prove a useful tool for other academic institutions to

examine their own ecologies of practice and seek ways to improve them. To look closely at what professors do and why can be a resource for helping all of us as educators to be more effective but also more reflective. In some cases, these findings may help us see where we can do what we do better than we do now. It is also possible that these findings may call into question some of the sacred cows of our practices—our assumptions about what is important for our students' futures and the extent to which we make claim to those futures.

7.4 The promise of theory

There are several ways that I would like to see the theoretical framework that emerged from this study expanded or applied. The first simply involves test-driving the model in other practice spaces. For instance, one potentially fruitful follow-up might be to apply the framework to research on rhetoric and literacy in community or workplace settings.

The framework seems productive for examining stable ongoing practices, as in the current case study. The institution that I studied was remarkably stable—at least to the point that I ended my data collection. WAC practices had evolved slowly and changed little over the years, departments and schools seemed supportive if not terribly involved, and student-faculty interactions were largely positive. This raises the question of what the theory might offer for examining practice at moments of disruption. The arrival of a major disruptive event, the Covid-19 pandemic, as I concluded the data collection phase of my study is a case in point. Studying practice when confronted with major disruptions to practice, such as the pandemic, would be interesting. Because of its impact on education practices, the pandemic itself has already generated many studies, but a post-pandemic follow-up on the same campus, using the reported practices and design-thinking as a benchmark, would also be interesting. My intuition is that the use of digital tools probably increased but the writing assignments and the expectations

surrounding them likely snapped back to pre-pandemic norms. While the empirical results would be interesting here, the question is also one of theory: does attending to time flow in the ways theorized here explain and illuminate change, or do disruptions in events demand additional theoretical tools?

We might also wish to consider systems riven with minor disruptions, for instance, by looking at a campus where practices are less stable as a rule. This could be because of a strong and innovative WAC program, or, perhaps more likely, because the campus environment has multiple points of instability—fluctuating enrollment and weak retention, large numbers of contingent faculty, misalignments between administration and faculty, frequent program changes and so on. If stable practice proves surprisingly interesting, as I believe this study has demonstrated, we are also interested in examining unstable practices and disruptions of stable practices. In these perturbations of time and change lie new horizons for research.

After I mentioned that the institution that I studied represents a fairly stable system, I also indicated some potential hubs for conducting innovation. This sparks another question worth exploring. What are the nexuses of change in specific settings, and which appear more productive across settings? Of course, we do not need to assume that change is positive. The question is one of exploring the forces and nexuses that destabilize the system, whether productively in ways that allow the system to better meet its larger goals, or those that disrupt and impede that process.

Implied by this discussion is a question of the dispersal of agency within the system, or as part of design practices more specifically. Assemblage theory rightfully confers agency on humans, human collectives and reifications, and on the surroundings and material world. As we have seen in this study, time, too, shapes design, though I would not argue that time has agency.

It is, rather, a measure of recurrence and change across the environment. Many posthuman scholars resist speaking in terms of scale or hierarchies, opting for a flat ontology that looks for relationships across all scales, which is indeed a fruitful methodological move. However, I concur with Allen (2018) who argues that human agency is a necessary fantasy for composition as a discipline. As I speak of design, I certainly indulge the fantasy that the designer is an individual acting with (some) agency. Even while we admit that this agency is less real than we imagine, our treatment requires us to imagine it. This stimulates another question. How is agency weighted or differentially distributed within the ecology in different settings? Intuitively we might consider agency to be more fully invested in the instructor as designer while noting that administrators, the department as a whole, the students, and the centripetal push of reified objects on practices all have agency. But how does this imagined agency flow, and where does it pool in different institutions?

7.5 Final thought

Writing scholarship follows literate activity across an array of sites, from college campuses with their obviously rich practices to those that, on the surface, appear rather unlikely, like accounting firms (Devitt, 2004) or children too young to write (Rowe, 2018), and by so doing, allows us to appreciate and improve our capacity for thriving in our complex world. The ecology of practice is the scenery of our lives, so familiar as to be invisible, yet when we give it our attention, we can find ourselves fascinated by its patterns and textures, pulses and rhythms. Paying attention to the flow of time, both linear and recurrent, helps us to see the dynamism and energy of the system. Bringing in the historical body and marrying Wenger's reification-participation interplay with the idea of assemblage from new materialism and other social theories (Bennett, 2010; Latour, 2005; Law, 2004; Spinuzzi, 2008) let us see the traces of time

within the system. These are all valuable theoretical tools for closely examining literate tools and texts and more fairly and fully understanding the makers and users of these texts.

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APPENDIX A

RECRUITMENT EMAILS

Interview

As part of my dissertation in the area of writing studies, I am exploring how professors conceptualize and teach undergraduate courses designated as writing-intensive (or W) courses at [*name of target institution*]. The most crucial data will come from interviews of faculty from a cross-section of disciplines about their experiences designing assignments for W-courses. I aim to select professors from a range of courses across campus, and for that reason, I believe that you would be a particularly valuable participant since you teach a selection of W courses for [*name of discipline*] majors.

For each faculty participant, I plan to schedule two separate interviews of 45 minutes each. I hope to complete the first round of interviews this semester. I recognize that even this amount of time can be a challenge for a busy faculty member, but I believe the interviews will provide rich qualitative data for advancing writing studies. I also anticipate that the data will ultimately be valuable to us as faculty as we seek to more efficiently and effectively use writing as instructional tool. To that end, when my study is completed, I will be delighted to share my research and any other feedback that you might find useful. Thank you for willingness to consider participating in this study. If you are able to participate, please let me know, and I will work with you to find the most convenient time to schedule the interview. Of course, if you have any questions that you would like to ask before making a commitment to participate, I will be happy to answer them.

Survey

As part of my dissertation in the area of writing studies, I am exploring how professors conceptualize and teach undergraduate courses designated as writing-intensive (or W) courses at [*name of target institution*]. I believe that the information I collect can also benefit the institution as we explore ways that writing assignments add value to our courses and may lead to even better learning outcomes in the future. I am most interested in the types of writing assignments that you have designed for your courses and how these writing assignments support other objectives in your courses.

The survey is intended to take no more than 15-20 minutes. Survey results will be delivered and reported anonymously. Participation is voluntary and you may skip any question you are not comfortable answering. If you agree to participate, you can withdraw your participation at any time without penalty.

To access the survey, click [*link here*] or copy and paste the following link into a web browser: [*link here*]. If you have questions regarding this research, please contact Laurie Stankavich at lstankavich@southern.edu.

Thank you for taking the time to help me better understand how writing is being done at the undergraduate level at [*name of target institution*].

APPENDIX B

INFORMED CONSENT

This qualitative research study is looking at the design of and thinking behind written assignments professors create for undergraduate courses.

Methodology:
The main method used for gathering data will be an interview of approximately 60-90 minutes. I will be asking questions about a specific W-course that you teach and the assignments you have designed for that course, with an emphasis on the factors that led you to come up with the design for each assignment. With your permission, I would also like to record and transcribe the interview.

Risks and benefits:
Since most educators are comfortable sharing their thinking about instructional strategies, assignment ideas and course design, it is unlikely that the interview will include anything sensitive. On the other hand, reflecting on what you do in your course may be valuable to you as an educator. In addition, I will be pleased to share my findings with you informally, and/or provide you with a copy of the written report.

Compensation: There will be no compensation for your participation.

Your answers will be confidential. The records of this study will be kept private. Computer files for the audio recordings and the transcriptions will be labeled with pseudonyms. In my written report, I will use pseudonyms for the name of the institution, names of faculty participants, and course titles. Some details of academic programs, course content and descriptions of your assignments might lead motivated individuals familiar with the institution and the researcher to guess your identity, however. These details are crucial to the integrity of the study.

Taking part is voluntary: Taking part in this study is completely voluntary, and you may decline to answer any interview question or end the interview at any time.

If you have questions: If you have questions later, you may contact me at lstankavich@southern.edu or reach me at extension 2693.

You will be given a copy of this form to keep for your records.

Statement of Consent: I have read the above information, and have received answers to any questions I asked. I consent to take part in the study.

Your Signature _____ Date _____
Your Name (printed) _____

In addition to agreeing to participate, I also consent to having the interview tape-recorded.
Your Signature _____ Date _____

APPENDIX C

INTERVIEW GUIDE

1. **SELECTION:** Why did you choose this assignment from this course? What makes it interesting or meaningful to you?

2. **TALK ME THROUGH:** Talk me through how you have framed the assignment and your goals for it. How do you use these (pointing) documents?

3. **ORIGIN:** Think about when you first came up with this assignment for this course. What was your thinking at that time? (Where did you get the idea for the assignment? What previous experiences influenced the conception or design of the assignment?)

4. **EVOLUTION:** How many times have you used the assignment? Has the assignment evolved? In what ways? In what ways have you contemplated changing the assignment in the future, either to adapt to changing student needs or changing digital environment?

5. **DESIGN PROCESS:** How do you typically design a course? Describe the process. What sorts of consideration come into the design process? For instance, do you think about the time that it will take students to do or you to grade? Do you think about what you or others have done? Do you…?

6. **REDESIGN PROCESS:** Do you frequently revise or update your courses, or do you tend to stick with an approach that works?

7. **PRACTICES:** What is the typical practice that you use for teaching the assignment? That is, how do you introduce it? How do you help the students through the process? (etc.)

8. **ASSESSMENT & OUTCOMES:** What is most important to you in evaluating the assignment? How do you determine if students have met the goals of the assignment? What markers determine successful learning? What do you look at first or what do you weigh most heavily?

9. **INNOVATIONS & FLEXIBILITY:** What are some ways that students are permitted or encouraged to innovate in this assignment? What are some innovations or variations that you discourage? What things are crucial, that you don't want students to change, deal-breakers if you will?

10. **CHALLENGES:** What are some frequent problems that you see, and how have you (re)designed the assignment or changed the instruction to prevent those pitfalls for students?

11. **DISCIPLINARY MENTORING:** What is a specific problem that you frequently see in student writing in your discipline, and what is an intervention that you have made part of this assignment (or another assignment) in order to help students avoid this pitfall?

APPENDIX D

SURVEY

Design of Writing Assignments in W-Courses

This survey is designed to explore how professors conceptualize and teach undergraduate courses designated as writing-intensive (or W) courses. The main focus is on the writing assignments included in the W-course(s) that you teach and how these writing assignments support course objectives and disciplinary goals.

The survey is intended to take no more than 10-15 minutes. Participation is voluntary and anonymous.

1. Broad disciplinary area in which you currently teach

Mark only one oval.

- ( ) Humanities (languages, history, religion, etc.
- ( ) Social sciences, including education, business, social work, political science, etc.
- ( ) Biological sciences and health sciences, including allied health, nursing, health and wellness
- ( ) Arts, that is, visual or music
- ( ) Physical sciences, math, computer science, engineering and technology

2. Prior to teaching at this institution, which of the following professional experiences have you engaged in for at least one year? (***Check all that apply***.)

Check all that apply.

- [ ] Teaching undergraduate or graduate courses at another North American institution
- [ ] Teaching undergraduate or graduate courses at an institution outside of North America
- [ ] Teaching at a primary or secondary school in North America or elsewhere
- [ ] Working within a professional or business setting outside of academia, including self-employment
- [ ] Working for a charitable, development or mission organization

3. How frequently have you taught W-courses at SAU?

Mark only one oval.

- ( ) I have taught one or two W-courses, but W-courses are not a frequent part of my teaching load.
- ( ) I have taught more than two W-courses, but I do not necessarily teach W-courses every semester
- ( ) I teach W-courses nearly every semester.

4. Which of the following most accurately reflects your history with the W-courses that you teach? (***You may choose more than one answer if you teach multiple W-courses.***)

Check all that apply.

- [ ] I inherited the course(s) and teach in substantially the same way as taught before.
- [ ] I inherited the course but made changes to the writing assignments.
- [ ] I added the W designation to a course because I felt that increasing the writing component would better meet course goals and thus redesigned the course to meet the W criteria.
- [ ] I applied for a W designation for a course that already had a significant writing component.
- [ ] I developed a new course that was also designed to meet W criteria.
- [ ] Other: _____

5. Which of the following do you believe to be the most significant reasons that your course (or courses) came to be designated as having a writing emphasis? (***Check all that you consider crucial.***)

Check all that apply.

- [ ] Writing allows students to demonstrate knowledge and understanding in the ways valued by the field or discipline.
- [ ] Writing develops the powers of independent reasoning useful for a college graduate within my field or discipline.
- [ ] Writing builds research skills needed within my field or discipline.
- [ ] Writing prepares students for professional practice.
- [ ] Writing serves reflective goals for students, allowing them to make personal connections between course content and current or future values and practices.
- [ ] Writing creates social connections between students within a course or between students and others with which they build community.
- [ ] Other: _____

6. Which of the following do you believe have **significantly** influenced the way that you have designed and taught writing assignments for a W-course? (***Check all that apply***.)

Check all that apply.

- [ ] Writing experiences you had as an undergraduate
- [ ] Writing experiences that you had at the graduate level (masters or doctoral)
- [ ] Writing assignments created or encountered while teaching in another institution
- [ ] Workshops or training administered by institutional writing committee on this campus
- [ ] Consultation with colleagues in the English or communications department on this campus.
- [ ] Collegial exchanges within your own department or school on this campus, including mentoring relationships
- [ ] Professional development outside of the institution, such as attendance at conferences or workshops, or gleaning ideas from reading professional journals
- [ ] Writing within a workplace or professional setting (non-academic)
- [ ] Writing for public or personal reasons (including private journaling, personal projects, or for publication)
- [ ] Innovative assignments after brainstorming about course goals and/or disciplinary objectives
- [ ] Student input from previous experiences teaching the course or a similar course
- [ ] Other: _____

7. Which **TWO** of the influences listed have had the biggest influence on the way that you have designed the writing assignments for your W courses? (***Check the two most consequential***.)

Check all that apply.

- [ ] Writing experiences you had as an undergraduate
- [ ] Writing experiences that you had at the graduate level (masters or doctoral)
- [ ] Writing assignments created or encountered while teaching in another institution
- [ ] Workshops or training administered by institutional writing committee on this campus
- [ ] Consultation with colleagues in the English or communications department on this campus.
- [ ] Collegial exchanges within your own department or school on this campus, including mentoring relationships
- [ ] Professional development outside of the institution, such as attendance at conferences or workshops, or gleaning ideas from reading professional journals
- [ ] Writing within a workplace or professional setting (non-academic)
- [ ] Writing for public or personal reasons (including private journaling, personal projects, or for publication)
- [ ] Innovative assignments after brainstorming about course goals and/or disciplinary objectives
- [ ] Student input from previous experiences teaching the course or a similar course
- [ ] Other: _____

Campus training

8. Which of the following on-campus training opportunities have you taken part in during your time at [ ]? (***Check all that apply***.)

Check all that apply.

- [ ] Summer institute offered by the Center for Teaching Excellence
- [ ] Writing workshop (offered by writing committee or English department)
- [ ] Critical thinking training
- [ ] Other: _____

9. What changes did you make to writing assignments in your W-course(s) as a result of on-campus training opportunities? (***Check all that apply***.)

Check all that apply.

- ☐ Added one or more new writing assignments (major writing assignment or several shorter assignments)
- ☐ Made significant changes to previously-used assignments (purpose, audience, genre, medium, style of language, types of evidence, design or layout, changes to the writing process, etc.)
- ☐ Used previous assignments but made some small modifications to instructions or expectations
- ☐ Changed topics that students could select or changed the process for selecting topics
- ☐ Developed new supporting materials (PowerPoint presentations, videos, handouts, etc.) to scaffold the writing process and help students better meet expectations
- ☐ Created class activities to better engage students in the writing process and/or to provide feedback during the process (from instructor or from peers)
- ☐ Brought in new technology to assist students at any stage of the writing process
- ☐ Changed what happens to assignments after students complete the final draft
- ☐ Changed assessment or marking practices for writing assignments
- ☐ Changed other aspects of the course but kept writing assignments substantially the same
- ☐ None, or have not participated in any of training that impacted writing assignments
- ☐ Other: _____

10. Which of the following reflect goals for low-stakes or extemporaneous writing assignments in your W-course? (***Check all that apply***.)

Check all that apply.

- ☐ To deepen understanding of and engagement with assigned readings
- ☐ To give students an opportunity to apply terms and concepts and to consolidate ideas from different topics or chapters within the course, or across courses within the curriculum
- ☐ To foster disciplinary thinking and approaches to argumentation useful in upper division and graduate work in your field
- ☐ To give students the opportunity to practice research methodologies as valued in the field or profession
- ☐ To give students the opportunity to create texts similar to those used in future workplace settings in your field
- ☐ To give students an opportunity to reflect on their own experiences and feelings related to the course or to their lives outside the course
- ☐ To help students make explicit connections between course content and personal lives and worldviews.
- ☐ To give students the opportunity to express or develop their creative abilities
- ☐ To apply course content, concepts or methodologies to benefit community organizations or meet community needs
- ☐ Other: _____

11. Which of the following reflect goals for major writing projects in your W-course? (***Check all that apply***.)

Check all that apply.

- ☐ To deepen understanding of and engagement with assigned readings
- ☐ To give students an opportunity to apply terms and concepts and to consolidate ideas from different topics or chapters within the course, or across courses within the curriculum
- ☐ To foster disciplinary thinking and approaches to argumentation useful in upper division and graduate work in your field
- ☐ To give students the opportunity to practice research methodologies as valued in the field or profession
- ☐ To give students the opportunity to create texts similar to those used in future workplace settings in your field
- ☐ To give students an opportunity to reflect on their own experiences and feelings related to the course or to their lives outside the course
- ☐ To help students make explicit connections between course content and personal lives and worldviews.
- ☐ To give students the opportunity to express or develop their creative abilities
- ☐ To apply course content, concepts or methodologies to benefit community organizations or meet community needs
- ☐ Other: _____

12. When designing a course for an upcoming semester, which of the following is most likely to be **your first step**? While it is likely that professors will engage in all of these practices at different times, which of these steps most aligns with what you tend to do first? (***May choose more than one if equally likely***.)

Check all that apply.

- ☐ Make a list of readings from textbook and/or outside sources
- ☐ Review syllabi, whether your own past syllabi or those from others
- ☐ Brainstorm about the goals of the course and design assignments to meet those goals
- ☐ Use semester dates to create course calendar
- ☐ Create and populate eClass interface
- ☐ Create or revise a biblical framework
- ☐ Other: _____

13. Which of the following as caused you to redesign a writing assignment in a recent semester? (***Check all that apply***.)

Check all that apply.

- ☐ Assignment did not lead to desired student outcomes
- ☐ Assignment did not match subject content as hoped
- ☐ Too little time for grading, that is, issues with course load, student numbers and/or work-life balance
- ☐ Too many other projects or assignments in the course, meaning some needed to be shortened or removed
- ☐ Students needed more support during the writing process
- ☐ Felt the assignment would work better as a solo project--or as a team project
- ☐ Students complained or suggested adjustments
- ☐ Wanted to test drive or experiment with new models
- ☐ Discussed with or got ideas from other faculty
- ☐ Department or school made larger curricular changes that impacted the course and its assignments
- ☐ Other: _____

14. What types of support do you typically provide to help students understand the expectations of a major writing assignment? (***Check all that apply***.)

Check all that apply.

- [ ] Section in the syllabus defining the goals and expectations for the assignment
- [ ] PowerPoint or video presentation laying out expectations and goals for assignment
- [ ] Printed handout with instructions for completing a given writing assignment
- [ ] Model of a successful paper, either a successful student paper or a simulated paper
- [ ] Several small class or homework activities that draw student attention to particular features of the larger project paper
- [ ] Rubrics or assessment checklists shared with students
- [ ] Other: _____

15. Which of the following objects, materials or tools plays a **central** role in your course, especially in relation to the major writing assignment(s)? In other words, you refer to it frequently inside and outside of the class and consider student engagement with it to be crucial to their success. (***Check all that apply***.)

Check all that apply.

- [ ] eClass interface
- [ ] Other software or interface
- [ ] Course textbook
- [ ] Disciplinary style guide or writing textbook
- [ ] Writing guide produced by school or department
- [ ] Anthology or list outside readings (printed or eClass archive)
- [ ] Suite of videos or guided learning modules
- [ ] Detailed instructions and/or checklist for major writing assignment (in syllabus or as separate document)
- [ ] Syllabus as a whole
- [ ] Other: _____

Thank you!
Your participation is greatly appreciated.

APPENDIX E

LIST OF PROCESS CODES

Adapting textbook, other resources
Aligning with discipline
Bringing in a spiritual connection
Bringing in core concepts
Bringing together different course components
Browsing written resources
Choosing a textbook
Coaching writing over the course
Collaborating or discussing with colleagues
Considering student futures
Considering time, efficiency, etc
Considering w policy
Designing for particular pedagogical goals
Drawing on institutional resources
Drawing on other life experiences
Drawing on other teaching experiences
Drawing on personal interests or preoccupations
Drawing on prior education
Looking towards end points
Reflecting on overarching purpose
Scaffolding over curriculum
Scheduling in content and deliverables
Standardizing practices within dept
Taking on the course at first
Tweaking course & fixing problems
Working with genres and expectations

APPENDIX F

FULL VERSION OF TABLE 4.5

Writing assgnmnt	Pedagogical goal 1	Pedagogical goal 2	Pedagogical goal 3
Philosophy statement (Education)	**Review and synthesize ideas from educational tradition** It is a "culminating paper" "It's introduced in the beginning of the course and I tell them …this is part of the assignment that we're going to have at the end of the course and that the course will build on ideas that they need to start thinking about of what they might include because we will be talking about different philosophers from the field of education and you will find some, for example, that you don't like their philosophies or you like parts of it and parts of it you don't or they don't speak to you in some way, and that's okay. You can't use all of them anyway but you will find ones throughout that you particularly relate to, and that will help you." "It's not a capstone, but it certainly is a bookend to their um education courses because I think they need a chance to have had a lot of exposure to education courses so that they can pull together their own philosophy from what they've learned." Rubric items: "Major Philosophies from classical writers/thinkers" and "Influences from contemporary writers/thinkers"	**Reflect and integrate own ideas** "One of the goals of that class is to help students develop a philosophy of their own." "This is not something you just write because someone's going to grade it; it is more important than that. …it doesn't drive your ideas, but it does put them in writing in a way that you- anything you write down, you tend to commit to a little bit more, and it's trying to figure those out and it's in this process of writing that I think makes the bigger difference than just the end product." "We will be talking about different philosophers from the field of education and you will find some, for example, that you don't like their philosophies or you like parts of it and parts of it you don't or they don't speak to you in some way, and that's okay. You can't use all of them anyway but you will find ones throughout that you particularly relate to, and that will help you." Rubric items: "General Statement about why you chose education" and "How the impact of others will guide you in making decisions"	**Integrate Christian world view with disciplinary tradition** Rubric item: "Christian world view and how it impacts your philosophy" "If they were in an atheist student I wouldn't say that you have to that you have to write about Christianity… but you would have to write something in terms of what your worldview is. I think I could do that- adapt that in a way that could work for them but it would have- it- they still are driven by something so I don't think that's too much of a stretch to say, you know, you've examined these things, where are you on that philosophy and defend that, but I don't think that necessarily means that you have to convert in the paper… if you're gonna be at a Christian institution, you- we shouldn't have to apologize for the student being required to examine Christianity."
Research report (Physics)	**Write up research in style of publishable article** "We started this course a long time ago, and it was because we wanted our students to get experience writing a science paper. I'm not sure when the writing point came along, but I have the feeling it was after the fact. I would imagine that somebody who teaches writing all the time might design it a little bit differently, but for us it was about producing a paper for sure."	**Publish in LaTeX** "The technical elements of writing that I introduce are definitely discipline specific, um, anybody in physics, they're going to need to learn to publish in the LaTeX language, they're going to need to learn to make figures, so there's definitely some standard elements"	**Generate effective figures & tables** "The technical elements of writing that I introduce are definitely discipline specific, um, anybody in physics, they're going to need to learn to publish in the LaTeX language, they're going to need to learn to make figures, so there's definitely some standard elements"

Proposal for thesis (Biology)	**Comprehend process for completing a research project** "They're actually supposed to do two presentations. One happens just soon after the semester starts where they a presentation in front of a small group of faculty and students where we kind of look at what they're doing and we'll ask questions and then at the end of the semester they do an oral presentation of their proposal." *[This is one pedagogical choice that implies students' need to grasp research process and this part of it, specifically, at this point. Of course, it is also obvious in that they are creating a proposal]* Syllabus course objectives: ". Gained skills in the following: a. Formulating a scientific hypotheses b. Conducting a literature search on selected topics. c. Designing experiments to test the hypothesis." *[In other words, students are to grasp the sequence.]*	**Generate plan for research project in science** Syllabus: "Each student, in cooperation with their supervising professor, will write a research proposal containing the following sections: *Title, Abstract, Background and Significance, Specific Aims, Methods and Materials, Expected Results, Budget, Timeline,* and *References.*" *[Entailed in genre of proposal is a formal plan]*	**Create effective figures and tables** "That would be something we would work on in that seminar class [=older version of what are now three courses], so how do you construct a good figure, you know? What is a good figure? What should be left out of figures, you know? When do use a figure? …and so we wanted to teach students those things… I can take one set of data and present it in two different pictures and it tells two different stories, depending upon how you present that data in a figure and how you construct that figure. So we look at how data can be used to move people this way or this way, same data just, it's just how it's presented differently in a figure and… you present it one way and the results are very clear. Present it the different way, it's like, what is it really saying, you know? Uh, so, we deal with stuff like that, you know… same set of data, it's all in how you present it. You know, that opens up the whole field of philosophy and ethics in science and stuff, you know? Um, being responsible with the data you have." *[Although he is talking about an older version of the classes, it is logical to assume that this crucial objective for science writing would also be addressed in this middle course of the sequence even it had been addressed in the intro class, Biological Analysis.]* "Um, one other thing that happens there too though in our proposal writing um- I actually have them do an expected results section and we have some professors that are like, well, you wouldn't really do that in a real proposal if you were writing it. Yeah, yeah, but the point is is to get to make sure the student understands how they're going to analyze the data before they ever start it, make sure they can actually do the statistics, make sure they actually

			know how it's gonna be presented. Because you need to know it's- you need you need to know what the end product looks like before you start." *[So presentation, i.e. the figures and tables, would be implied here]*
Museum journal assignment > research paper (Art)	**Engage art and glean personal and spiritual insights** Booklet: "This journal is intended for Christian students to better engage with art… and gain new wisdom and spiritual insight."	**Acquire the techniques of art criticism** "This guide should help you navigate any work of art or object in a museum… Writing in an organized method about art is called art criticism [involving] a four-step method to critiquing and understanding art."	
Art theory timeline & manifesto (Art)	**Integrate Christian worldview with philosophy of art and tools of art criticism** Syllabus: "To help Christians navigate art history with the Biblical great controversy worldview… Art can sometimes seem foreign to the Christian who does not understand the current times as viewed through prophetic time. This course will survey the philosophical developments that gave art it's meaning, stylistic, and theoretical developments in painting, sculpture, mixed media works, conceptual and performance art. Major themes will be considered and the philosophical background that inspired artists of the time will be discussed, tracing philosophies of art from Ancient times from Plato and Aristotle through the postmodern philosophers such as Foucault and Jacques Derrida." "Art making can be entering into [a] relationship with God in an active manner which we call 'worship'". Syllabus: "This research will consider philosophical theories from which artists (two or more of your choice) approached art making and style. You may choose any historical period but include approximately 50 years of history (approximately 25 years prior and after the work of art chosen). Please choose a period to study and research, compare,	**Reflect and integrate own ideas and work with philosophy of art and with ideas from another artist** Syllabus: "This research will consider philosophical theories from which artists (two or more of your choice) approached art making and style… This timeline presentation will happen in class and is the first part to the final project. Bring your work of art/film to class. Write your manifesto based on the research done for the timeline project… Write a minimum 4page manifesto, considering how your philosophy is inspired by your research and timeline. Defend the content or approach to your work of art/film from a Christian worldview."	

	and contrast, the philosophical ideas of that period, what influenced those ideas and how it is reflected the artworks chosen… The presentation will consist of an analysis of the timeline you have created and graded on the quality of your writing, extent of your research and depth of philosophical thought."		
Short essays (Business)	**Employ typical essay structure to make logical argument** "Well, what I figured that the students should be familiar with it after taking English here, that's a structure that is taught… in their beginning classes in critical thinking, and this is a senior class, it's the capstone class, and I expect them to be able to communicate in writing as well as verbally, and so, that was the reason for going with this." "I was anticipating is for them to be familiar with the five-paragraph writing assignment, uh, style and, and to be able to demonstrate their ability to, to adhere to that. And my rationale for that when I talk with them is that five-paragraph essay style is one that allows the reader to be able to anticipate what's going to come next and that it- there are different writing styles. But I want you to at least be familiar with one by the time you graduate, and it also helps in being able to assess them on a somewhat equal basis. This is what I'm expecting from each one of those and as I read it, I would like to be able to step through the introduction, the support paragraphs and the concluding paragraph, and be able to make a fair assessment for each student."	**Communicate in clear, objective style** "[In business] you kind of learn a way of expressing things in an objective way without imposing your bias in the writing, it's stating facts, yet at the same time, you're stating them in such a way that you don't state the truth, without inflating the truth or inflating the negative. So you're trying to find that path, if you will, to expressing what is actually happening without inflaming concerns on either side investor or the company itself. Because if you take and state something in a way that has certain connotations or baggage if you will and it can cause undue concern, either one way or the other, and so it is informing my teaching and my instruction regarding the writing that they that they approach their writing in a very objective way, that this is like reporting something. They hold back their own opinion."	
Capstone paper (Business)	**Systematically evaluate business environment to find problems and generate appropriate strategies to address those problems.** "I say, "Okay, so your role--or the shoes that you put on--is that you've been hired by this company as a consultant and in	**Communicate in clear, objective style** "[In business] you kind of learn a way of expressing things in an objective way without imposing your bias in the writing, it's stating facts, yet at the same time, you're stating them in such a way that you don't state the truth, without	**Make logical progression between ideas** "The cases, they need to be able to show the logic that they're using to go from one area to the other area. In other words… when I open up the case and read it, the first thing I'll go to is the problem statement. It's essentially the

	order to analyze the company's situation and to then give them some alternatives of which you've, you are recommending the optimal alternative that you come up with and you're- overall what you're trying to do is convince or persuade that board that this is what the company needs to do to ensure its continued success."	inflating the truth or inflating the negative. So you're trying to find that path, if you will, to expressing what is actually happening without inflaming concerns on either side investor or the company itself. Because if you take and state something in a way that has certain connotations or baggage if you will and it can cause undue concern, either one way or the other, and so it is informing my teaching and my instruction regarding the writing that they that they approach their writing in a very objective way, that this is like reporting something. They hold back their own opinion."	middle because what I read then from the beginning to that problem statement should be a logical progression that by the time we get to the problem statement, the reader should say, 'You're right. That's obvious.'" "I want them to be able to express in their writing things very clearly"
Research-based essay (Religion)	**Attend to detail in following professional conventions** Page 3 of the syllabus gives two sentences about formatting under the description of the paper, followed by these sentences: "Any assignment, which does not conform to these requirements, will be returned ungraded. In grading 25% of the grade will go to the format and 75% to the content of the assignment." Page 6 of the syllabus: "The following must be observed in order for the paper to be accepted:" (followed by 11 points related to formatting)	*(lacking good data on other pedagogical goals performed by this assignment because I only had the one interview)*	
Lab report and/or research report (Chemistry)	**Generate lab report from rigorous and careful records of experiments in lab notebook.** "It's really important for science to write in lab notebooks. Because you keep track of what you do, your observations, your measurements, your observations, your conclusions, you're coming into the lab with an idea that you've written down, potentially you may have written out a procedure, maybe not detailed, but steps that you're going to do, it represents your thinking in terms of how you're going to accomplish the task. And then in the- you know, we're not doing research here, we're not finding anything new, but then you take your idea and you take your	**Generate effective figures and tables** "Another big thing for us in scientific writing is how you formulate a table, how you formulate a graph, this is very, …specific (chuckles) you know, there's certain expectations, every publisher has a different expectation for that… and so I act as the publisher and I designate this is the precise way these things need to be formulated and so they also do that as part of the writing training as well."	

	procedure and your results and then you see, hopefully, that, y'know, as a result of keeping that record you can look back and see did you get what you're supposed to, what you're expected to get, you can evaluate, did I make a mistake in the procedure, you can look back at your procedure and evaluate, you can look back and see what you were expected to get and did you or did you not, you know, so it's a record of what you anticipate and then what you did, and then, you take what you did and what you expected and… we want our students to then be able to analyze and formulate some kind of conclusion about their work based on that writing. So that that's the introductory idea of writing in science, in the lab notebook." [*While he is mostly focusing on the notebook here, note the next to last sentence]* "[In P-chem, it's assumed they are familiar with lab notebooks.] It's tacit. It's just part and parcel of the tradition; it's just something that's always there in our discipline, but I do [address it] some."		
EBP paper (Nursing)	**Understand quantitative and qualitative research reports** "They search for evidence, they do literature searches and so they have to have six peer reviewed primary source journal articles and then they look in-depth at that, those articles, and then they have to answer, you know, what type of design, what was the sample, the setting, data collection, data analysis, limitations…" "there has to be one qualitative and the rest can be quantitative, or there at least has to be one… quantitative and the rest can be qualitative" "I started it in the fall when I was teaching research class because I wanted them to participate in a quantitative research study the quantitative week and then a	**Apply research findings to nursing practice** Syllabus (justification of course): "Applying knowledge of the basic concepts of the research process, the learner will develop the skills to critique research reports to determine their appropriateness for application in nursing practice focused on restoring individuals to the image of God" AACN essential (listed in syllabus): "Scholarship for Evidence Based Practice" "…they have to apply to practice, they have to find out what's currently done in the healthcare environment and then… how can they implement this… in the future." "Yeah, like a review of literature, a translational paper so how to put it	**Make scriptural applications to life and professional practice** "On their final paper they have to have a biblical application so… So they.. have to find Bible verse or story that will reflect... So finding a Bible verse, they have to apply a biblical application." "I have to say I think the reason God has brought me to research class is because… week three… it's search the evidence and so we look at databases, and, you know, knowing what evidence to find, which ones are acceptable, and then I challenge them if they… choose to search the Scriptures five days a week for the rest of the semester, they can get out of taking the final exam. They just have to answer one question: what did they read and how meaningful was it to them

	qualitative study the qualitative week." "So each Quant and Qual are both two weeks long so the first week they do- they participate in the survey and then the second week we do data analysis of the data set they just helped build and that has been really cool to see them kind of, it's like, oh, yeah, this is a qualitative." "So they write the first three papers, they do a research article review, then a research article critique, quantitative and then a qualitative." Syllabus (learning outcome): "Examine rigorous and appropriate research methods through critique of research reports."	into practice. So essentially they're supposed to find a- pick a topic of something that they would like to see improved in their workplace."	and how will they incorporate that into their future practice." Syllabus (concept chart): "Search the scriptures daily" → "evidence-based practice"
Book reviews (political science/ history)	**Critique and analyze a written argument in the field** [I wanted] a book review knowing that I wanted them to be able to spend individual time reading and then being able to think critically and analyze what it is that they were reading, what are the takeaways, um, not just summarizing but also being able to think and review what is this book telling me, what is the author's point behind writing it, and am I am I sensing any biased information here, am I sensing, uh, any pitfalls, did, did the author fail in any way, did they- were they a success in their their goals, I mean, I wanted them to be able to understand how to review a book by this level of class" "Yeah, I think the book review is a bit shorter and there is a bit more guidance that's provided in terms of which questions are asked and students having to answer the specific questions… I think that the book review allows for a little bit more of that specific kind of focus that I'm looking for at times, for students to be able to really kind of hone in on some specific questions and take certain thoughts away from the reading."	**Summarize and generate implications.** "First, they have to write a short summary as to what's taking place, you know, whether it was a news article or whether they're writing a brief of what's happening, you know, for their bosses, whether it's on business or whether it's on government policy or whatever is taking place, they have to write a short summary and then they write why it matters… and that's what they're doing for me too and so they're writing about the implications just maybe the top two or three implications and that's how it transfers over is, you know, these implications why we should care about it... why we should care about it in terms of economic focus, security focus, you know, if it's something religious… whatever. So when we think about in those terms whether they're working for business, a government organization, a think tank, that ability to evaluate is to gonna be really helpful, to think critically and to analyze what it is they're dealing with, and then they make a few recommendations as to next steps."	**Use an objective style, striving to avoid bias** "I'll say, be careful not to show any bias in your in your writing, maintain a professional tone, you know, because as someone is going to feel like they are are simply taking it a tack, you know, against someone versus- or, you know, taking even this desire to to attack a certain position and that reduces your credibility. So find another way to reduce that other position that doesn't come across in that that tone. So- and there are plenty of ways to do it, uh, factually." "Um, you know, because you really should just be coming across in a factual way that is that is showing your information, that is showing your numbers, that are showing your your quantitative data and and show those facts, and let us come to our own conclusions and if you're not doing that, it is that you are obviously showing us your own opinion then then you have failed."

Research papers (political science/ history)	**Leverage reading to find an engaging topic of personal interest and explore further in more depth** "I'm really hands-off as to what students are going to choose to do, you know, they can choose their research question, they they choose their area and really they.. have their curiosity kind of guide them as to what they want to do. So the research paper I think is very helpful to building the skills needed for graduate school or for continuing on in terms of independent research" "I encourage if you have a passion, if you have an interest, of research interest that you already know is there, stick to it and find multiple articles that you can write on, kinda develop a portfolio of sorts, and then you're welcome to take that and put that into a paper. And so she did, she took that and put it into a paper on Iran and how they were the largest- they were the country with the largest number of journalists that were detained without cause, you know, that they were, they were right up there with China and North Korea. And so she put that into a research paper for the Middle Eastern politics class, and it had come out of a [news] writing assignment." Syllabus description: "Students will not be provided topics by the professor, and they are instead encouraged to search for topic inspiration within the text, news, private reading, or discussion in office hours with the professor."	**Adopt a tone that avoids bias and fairly considers other points of view** "I'll say, be careful not to show any bias in your in your writing, maintain a professional tone, you know, because as someone is going to feel like they are are simply taking it a tack, you know, against someone versus- or, you know, taking even this desire to to attack a certain position and that reduces your credibility. So find another way to reduce that other position that doesn't come across in that that tone. So- and there are plenty of ways to do it, uh, factually." "They maybe show bias in their presentations or bias toward certain groups of people or toward certain practices. So, you know, one of the things that we discuss is FGM or female genital mutilation and I have a lot of people that are very against the practice and think that it's absolutely ridiculous that anyone would ever practice it and they're very... strong in their language without being able to understand that maybe there are people and locations where this is deemed normal and maybe we should be able to understand a little bit more of why that is, right? And how it could be helpful to be able to put ourselves in those people's shoes and in those people's minds and why it could be helpful and so I tend to get a little bit impatient with the thought that we should be so intolerant." "I want to help them to be able to see the nuances on the ground, I want them to be able to see how these details, like you're talking about how we can't just clump all of these groups or societies or face together"	
Literature review	**Engage sociological theory in study of aging** Syllabus (outcome): "Compare and critique social and psychological theories of adult development and aging"	**Become familiar with social science research report structure by constructing paper in sections** Syllabus (research paper description): "The paper will be	

	"[I am] now more under the influence of sociology instructors and so I'm really wanting to bring that theory back in and it's supposed to be a sociology course and although I'm teaching mostly nursing students, I- I am feeling like I'm doing a disservice to not have theory in there and so I'm gonna start putting that back in. Yeah. So this's been influenced by my own training in my sociology program um, I was- I just took a teaching sociology course, which is our, our main, um, I guess teacher preparation course in, uh, Emory sociology program, so that's definitely influenced my- my way of approaching writing, um, and building assignments."	worked on in "deliverables" throughout the semester, including a topic proposal, two article summary assignments, and section drafts leading up to the final submission at the end of the semester" "I just took a teaching sociology course, which is our, our main, I guess teacher preparation course in, uh, Emory sociology program, so that's definitely influenced my- my way of approaching writing, um, and building assignments. Another course I took at Emory really influenced the way that I scaffold these assignments so, at first when I first inherited the course, it was just- they had a first draft and a final draft for, um, for this research paper, and I have since turned this into multiple what I call, and which was inherited from a professor at Emory, 'deliverables.' Um, and so this is now my, um, approach to scaffolding the, uh, the assignments building, uh, one on the other."	

VITA

Lauriellen Stankavich
Departmental address:
Old Dominion University Department of English,
5000 Batten Arts & Letters Norfolk, VA 23529

Education:

Ph.D. in English, Old Dominion University, anticipated graduation December 2022
Dissertation: A Nexus of Literate Activity: The Design of Writing Assignments in The Disciplines
Co-Directors: Dr. Louise Weatherbee Phelps and Dr. Michelle Fowler-Amato

M.A. in Linguistics, University of Texas at Arlington, 1993

B.S., Journalism, Minor in chemistry, Andrews University, 1990

Teaching and professional experience:

Southern Adventist University, Department of English, Collegedale, Tennessee, 2010–present (Linguistics, rhetoric, first-year writing, ESL; ESL coordinator)

Union Springs Academy, Union Springs, New York, 2007–2010 (High school English, Spanish, Mandarin)

Adventist Education Holdings, Taipei, Taiwan, 2003–2007 (Administration, teaching, and program development in international school)

Taiwan San Yu English Bible Center Pingtung, Taiwan, 2000–2002 (Administration in English & Mandarin)

Universidad Adventista de Centroamerica, Alajuela, Costa Rica, 1998–2000 (Teaching, curriculum development, administration)

Shihezi University, Xinjiang, China, 1995–1997 (Teaching English conversation)

Sichuan Instiute of Light Industry & Chemical Technology, Zigong, Sichuan, 1994-1995 (Teaching English conversation)

Presentations & publications:

"Mapping the English Curriculum through Methods and Methodologies," Adventist English Association Conference, Southern Adventist University, June 2019.

"Including Second-language Learners in the Writing Classroom." *Journal of Adventist Education*, Vol. 79, Issue 4, 2017. (With Amanda Livanos)

"Literacy in a Changing World: A Prototype Approach," Adventist English Association Conference, Southwest Adventist University, June 2016.