Working in Patches, Groups, and Spaces: A Task-Based Study of Literacy Ecologies for Digital Composing

Dissertation

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By

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Abstract

Digital literacy learning has become a fundamental, mainstream concern for teachers and researchers because of the increasingly central roles played by writing in digital environments and multimodal composing in twenty-first century literacy and literacy instruction. Digital composing draws on many of the processes that apply to print composing (planning, drafting, revising, et cetera), but its medium makes additional technical and rhetorical demands on composers which print-based models of the composing process do not fully address. This study describes a process-based approach to group digital composing tasks that accounts for access to digital literacy resources, methods for sharing task responsibilities between group members, and workspaces for digital composing. The material resources (including hardware, software, and physical/virtual workspaces) and intellectual resources (the functional literacy skills to operate these material resources and the rhetorical sensibilities concerning design, mode, and audience according to which composers create digital texts) digital composing relies on recommend approaching digital composing tasks in terms of component parts, while situating these components within complex literacy ecologies.

The case studies of student and faculty digital composing groups featured in this study focus on how groups approached and worked through their tasks. I analyze
participants’ methods of digital literacy resource foraging, task structuring, and workspace selection/structuring to recommend strategies for teaching digital composing. Rather than offering sample assignments or rubrics, this study proposes metacognitive exercises designed to help students draw on the literacy resources present in their literacy ecologies and approach digital composing tasks as learning opportunities. Building on Selfe and Hawisher’s work on conditions of access to technology, I offer “foraging” as a metaphor for describing how digital composers access digital literacy resources and discuss how foraging works in physical and virtual ecological spheres with differing degrees of resource density. Once gathered around the group task, digital literacy resources help shape how groups use cooperative and collaborative methods to structure their composing task. Gathered literacy resources create the potential for members to accumulate new digital literacy resources, which they can potentially transfer to future digital composing tasks. Although dividing task responsibilities according to previous experience can discourage resource transfer between group members, in-group techne-mentoring can encourage digital literacy learning during collaborative task phases. The material and symbolic dimensions of the physical and virtual spaces in which digital composing groups worked also function as material digital literacy resources that shape groups’ composing processes. Studying how groups produce (work)spaces by inhabiting them considers the extent to which digital composers can alter literacy resources as they apply them to specific tasks. Positioning workspace as a digital literacy examines how
resources change as they circulate in a literacy ecology through application to diverse composing tasks. Finally, groups’ physical and virtual workspaces also functioned as important digital literacy resources. Building on Paul Prior and Jody Shipka’s description of writers’ environment selecting and structuring practices, I look at how groups both follow and redefine the learning behavior cues designed into the physical and virtual environments in which they worked.
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Fields of Study

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Rhetoric, Composition, and Literacy
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Chapter 1: Introduction

Opening Anecdote:

In the business writing classes I taught in 2009 and 2010, the final assignment was a group project in which students analyzed a company’s website and created a Photoshop mock-up for an improved version of the site based on our study of effective business communication. I approached the assignment nervously, since the course was not billed as technology-intensive and few students had used Photoshop before. But, miraculously, almost every group produced a well-crafted mock-up which applied the principles of business communication and visual rhetoric we’d studied to create a sophisticated digital text.

At the time, I was simply relieved that the assignment hadn’t blown up in my face. Since then, however, I’ve wondered why it didn’t. How did students fill in the gaps in their knowledge of Photoshop, a program I introduced only briefly? Given that this was a group project, what role did the resources available to different group members play? How did group members bring these resources together around their composing task? Where did groups access the Photoshop software? Where did they meet to work together?

The pedagogical element missing from the website mockup assignment, I now realize, was explicit discussion of how student groups would approach and work on the project. I provided a prompt that outlined the assignment’s criteria. We discussed those criteria in class. Student groups had time to work together in class, and use Photoshop on the classroom lab’s computers. I met with each group to review their mockup drafts and provided feedback. But these activities all focused on the textual products the groups produced, not on the process they used to produce it. My pedagogy did not acknowledge Kristin L. Arola, Cheryl E. Ball, and Jennifer Sheppard’s assertion that “multimodal composing is a process too.” As the questions that conclude my opening anecdote suggest, process concerns for digital composing projects include the drafting and revision
concerns that characterize print composing. Digital composing, however, adds access considerations relating to the availability of tools like computers and software, the expertise required to use these tools, and the creative and rhetorical knowledge required to create meaningful, engaging texts using them. In the mockup assignment I describe above, I told students what I expected them to produce. But I provided little guidance about how they should work on the assignment or how to seek out support for it, beyond listing the hours for a few campus computer labs and referring students to a campus technology support office.

Especially for new digital composing tasks or ones that exceed students’ prior experience, the pedagogy surrounding the assignment must address how students should approach and work on the assignment. Digital composing relies on access to technological tools and the ability to use them skillfully. Access is further complicated by the rate of technological change and the fragility of many technological tools, meaning that expertise can quickly become outdated and hardware/software can stop functioning without warning. As a result, accessing resources to support digital composing must be an ongoing process that adjusts to changing material and intellectual conditions. This study focuses on how groups working together on digital composing projects access resources to support their work. I look at how and where individual group members go to gather the resources they need, how those resources are applied to the group’s task, and the potential for individual group members to access new resources while working on these digital composing tasks. Based on groups’ methods of accessing and using digital composing resources, I suggest pedagogical strategies that guide students through the
process of gathering resources around the task and encourage students to approach group
composing tasks as opportunities to access new resources.

This study focuses on students and faculty members working in groups to compose digital texts:

• undergraduates enrolled in a technology-intensive first-year writing
course;
• undergraduates, graduate students, and community members enrolled in a second-level writing course using digital technologies to collect and analyze literacy narratives from Black church members; and
• faculty and graduate students who created multimodal scholarly publications for a digital edited collection.

These three sites encompass a variety of academic composers, ranging from undergraduates to senior faculty. The second-level writing course also includes community members who were not otherwise affiliated with the university, emphasizing the connections between school and other life experiences which are foregrounded by the ecological approach I adopt (detailed below). The variety of participants these three sites include (in terms of age, gender, race, class, and educational/professional background) help me examine digital divide issues and consider the extent to which group digital composing tasks can serve as opportunities for digital literacy learning. The tasks around which these three sites focus also vary in terms of scope and specialization. They ranged from composing and circulating alphabetic texts using computers (first-year writing course); to creating media-rich slideshows that used familiar PowerPoint technology in new ways (second-level writing course); to producing accessible, multimodal webtexts (edited collection). The varying demands of these tasks allow me to trace different approaches groups in the three sites took to supporting their tasks.
This brief description of the study introduces its primary focus—group digital composing tasks—which I unpack briefly here and describe in more detail at the end of this chapter. I call these tasks “digital” because participants created and circulated their texts in digital environments, and because the affordances (easy replication and non-destructive editing) and constraints (technical issues and access difficulties, on the other) of the digital environments groups composed in, shaped their composing processes. These tasks can include composing in one mode (alphabetic text) or in multiple modes (combining alphabetic text with images, sound, video, and visual design). The digital environments, in which groups composed reflect the increasingly central role technology plays in twenty-first century literacy (see Selfe Technology, Buckingham, Coley).

The tasks that participants from each site worked on were defined by prompts that asked them to produce specific digital texts. For the classroom-based sites, these prompts defined the form, content, timeline, and scope of the texts, providing the kind of structure Jody Shipka recommends for classroom multimodal composing assignments (“Multimodal” 284-285). Because the classes were formal learning environments, students were also responsible for demonstrating what they learned individually and as group members about composing in the various digital media. For the academic publishing site, the task was less defined: the call for proposals identified a gap in the literature on literacy learning, performance, and research which the collection sought to fill, and invited contributors to propose a project whose content, argument, and presentation added something new to the scholarly conversation.

Finally, like the anecdotal classroom example that opens this chapter, the participants in this study worked in groups. In the classroom sites, instructors used
composing groups to encourage students to learn from their peers and to distribute the work across several people. And although some contributors to the edited collection site worked alone, the contributors I focus on in this study worked in groups. My focus on groups reflects the frequency with which groups, rather than individuals, work together on digital composing tasks in classroom and scholarly (as well as non-academic) contexts. Focusing on groups also allows me to build on the reflective, task-based digital and multimodal pedagogies scholars like Shipka propose, who focus on individual composers. This study investigates the following questions:

- Where do the resources that support group digital composing come from?
- How do individual group members access and apply them to a digital composing task?
- How do these literacy resources circulate among members while they work on the composing task?
- To what extent can individual group members access new digital literacy resources by participating in group digital composing tasks?
- How do groups’ inhabitation of (work)space as a material resource influence how the group approaches their task?
- How might their co-construction of (work)space affect the way others perceive and use that material resource?

Much of the current literature describing the development of alphabetic and multimodal literacies in digital environments comes from studies of self-sponsored youth engagement with digital popular culture such as blogs (see Yi and Hirvela), social media sites (see boyd, Gershon, Williams, Dowdall, Davies), fan fiction (see Thomas), role-playing games (see Hammer), video games (see Gee Situated, What; Alexander), and vernacular video (see Jackson and Wallin, Willett). These studies locate self-sponsored youth digital composers in communities that connect them to material and intellectual digital literacy resources. As Anne Ruggles Gere (“Kitchen”) and Kathleen Blake Yancey note, however, these activities are extracurricular, and the digital literacies they promote
are cultivated within self-sponsored affinity communities. Simply importing the kind of
digital communication and composing activities that characterize these affinity
communities will not, as some have argued (see Prensky, Marsh, O’Brien, King and
O’Brien), necessarily result in the formation of self-sponsored learning communities in
formal educational contexts. The frequent lack of “community” in online courses that
Ken Gillam and Shannon R. Wooden document shows that teachers cannot assume that
supportive teaching and learning relationships will emerge organically around classroom-
based digital composing tasks the same way they do around self-sponsored digital
composing work in affinity spaces (27-28). The kind of hobbyist self- and community-
sponsorship that characterizes the engagements with digital popular culture that I identify
above differs from typical classroom pedagogy. Rather than being affinity-based, formal
education balances individual student interests with (more or less) standard assignments
and assessment criteria unified by learning outcomes. The “standardization” aspect of
classroom digital literacy activities makes mainstreaming digital composing in higher
education potentially progressive (see Tsitouridou and Vryzas), if it is carefully
scaffolded and supported with opportunities to learn how to compose digital texts.

Without drawing too sharp a distinction between extracurricular digital literacy
activities and in-school digital literacy instruction, I argue that the resources and
motivations that support classroom-based digital composing cannot be assumed to mirror
those that support digital composing in affinity spaces. My case studies of groups of
student and faculty digital composers focuses on how these groups, which were not
formed according to technology interest or experience (although some participants had
both), approached and worked through their tasks. I use the methods of digital literacy
resource gathering, task structuring, and workspace selection that study participants employed to recommend strategies for teaching digital composing. Rather than offering sample assignments or rubrics, I outline pedagogies to support students’ practice of digital composing, proposing metacognitive exercises designed to help students approach digital composing tasks as learning opportunities.

Thinking about digital composing tasks like the website mock-up assignment in the context of a general purpose writing curriculum raises questions about how literacy resources move from one context or task to another, about the relationship between literacy resources and the people who use them, and about the factors that affect those relationships. Digital composing projects like the Photoshop assignment highlight the extent to which literacy performance is not a self-contained, solo activity. The continual changes to the tools digital composers rely on (computers, cameras, software, et cetera) and to individuals’ access to them, argue for the need to look at task-based digital literacy development as complex, connected, and dynamic. Furthermore, ideas about composing (what constitutes good website design?), the expertise located in individuals and texts (what information is current?), and support for digital composing tools (who provides support for this software?) also change continually, as does individuals’ access to them. As a result, task-based digital literacy development is complex, connected, and dynamic. The group nature of many digital projects also points to the distributed nature of such composing tasks. Not only is composing shared between individuals and tools, it is also shared between individuals with different relationships to the resources involved. The resources and people involved in digital composing tasks shape each other as the project emerges from their interaction.
I use literacy ecologies to describe how people and resources interact while working on digital composing tasks. Ecological approaches locate literacy practice and learning within interlocking, dynamic systems that operate at different scales. Ecological systems theory originated in biological and earth sciences to account for how change happens in complex natural environments by examining the interaction of organisms, groups of organisms, and their environments (see Odum 8-9). Scholars of culture and language like Ronald J. Deibert and Jay L. Lemke have developed human ecology approaches to studying social interactions and textual production that add cultural and historical dimensions to the emphasis scientific ecology theories place on instinct and environment. This emphasis on interconnected systems underpins the theories of literacy and writing ecologies developed in composition and literacy studies during the 1980s and 1990s by Marilyn Cooper, David Barton, and Margaret A. Syverson. Recent work on teaching/assessing writing ecologically applies Cooper’s and Syverson’s ideas to the writing classroom to discuss literacy resource transfer\(^1\) between different parts of students’ literacy ecologies.

**Ecological Approaches to Analyzing Human Culture and Society**

Deibert’s ecological approach focuses on relating cultural and material conditions to account for how media changes based on the interaction between human physiology, ideologies, social institutions, technologies, and the physical environment. He summarizes his ecological holism model theory in an explanatory diagram, reproduced in Figure 1 below. The first three rows in Table 1 below use Deibert’s definitions to explain his model, while the bottom row adapts his model to my study:

\(^1\) Although I define transfer in greater detail below, I will define it briefly here for the purposes of clarity as moving resources between different composing tasks and/or learning environments.
Table 1: Components of Deibert's Ecological Holism Model

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web of Beliefs/ Social Epistemology</td>
<td>“historically-contingent web of intersubjective values, beliefs, cognitive biases, and symbolic and linguistic forms into which a people are acculturated” (38)</td>
</tr>
<tr>
<td>Institutions/ Organizations</td>
<td>Formal and informal social structures ranging “from states and corporations and organizations on the formal side to habits of actions and general modes of organizing human interaction and subsistence on the informal side” (38-39)</td>
</tr>
<tr>
<td>Technology/ Technics</td>
<td>“practical or applied knowledge (formally, technology) as well as the material instruments or artifacts of technology (formally technics), such as the printing press” (39)</td>
</tr>
<tr>
<td>Geophysical Environment</td>
<td>Here I diverge from Deibert to focus on characteristics of the physical and virtual built environment and participants’ interactions with them²</td>
</tr>
</tbody>
</table>

These components are not distinct from each other: beliefs help constitute institutions; beliefs and institutions give meaning and substance to technology. The geophysical environment provides the context in which the components nested inside it play out. Deibert’s model begins to illustrate the ecological approach I take in this study, which situates digital composing work within the habits of thinking (webs of beliefs) that characterize the institutions to which individuals are connected. These institutions provide composers with access to technological tools and skills, whose use is shaped by their environment. Although I use different terminology, the ecological approach I lay out in this chapter and use throughout the project relies on Deibert’s nested, interconnected

² Because Deibert’s work looks at changes in media and society over millennia, the geophysical conditions he focuses on include “demographics, disease, climate, and natural resources, all of which have a loose constraining effect on the broad trajectory and character of social evolution” that parallel the longue durée approach to historiography (39). Because I adopt a case study approach, I look at the immediate physical environments in which participants composed their projects, rather than the natural environment factors Deibert emphasizes.
understanding of how institutions, technologies, and environments shape the ways individuals compose texts.

![Deibert's Ecological Holism Diagram](image)

Figure 1: Deibert's Ecological Holism Diagram (38)

While Deibert’s diagram provides a clear structure for considering ecological relationships, Lemke’s “ecosocial” approach to studying language and literacy emphasizes complexity and dynamism. Like Deibert, Lemke argues that human activities have both a material and cultural basis, which mutually affect each other (Textual 93-94). Material artifacts and culture shape each other because humans can only understand the world through verbal and visual “semiotic tools,” which shape how we understand the material world and how we shape it (in the case of the built environment) (Lemke Textual 101). Lemke also emphasizes the different scales at which these cultural and material
systems operate (ranging from the cellular level to entire societies to the Earth as a whole), locating human activity in the midst of a set of interlocking systems it affects and by which it is affected (Textual 94, 108). As a result, Lemke argues, literacy must be studied from an ecological perspective that places the individual in both a social and material context:

> Literacies cannot be adequately analyzed just as what individuals do. We must understand them as part of the larger systems of practices that hold a society together, that make it a unit of dynamic self-organization far larger than the individual. […] We could not be the community we are unless we did the things we do, and most of what we do depends not just on the physical and biological properties of all these system partners, but on what they mean to us. (“Metamedia” 286)

My analysis of how groups of digital composers work together to create texts uses the kind of analytical approach Lemke outlines here, locating literacy activities within a large, interconnected system of systems that individuals do not control. These larger systems create individuals’ material and social environments, which, in turn, shape how they understand and make meaning from their material and social environments, and (as complex adaptive systems) vice versa. My case studies bring together the kinds of material, social, and semiotic systems that constitute Lemke’s ecosocial system to examine how composers working in groups access and use literacy resources while working on specific tasks, keeping in mind the limited freedom Lemke assigns to individuals within the hierarchy of systems that form the ecosystem.

**Literacy Ecologies: Theorizing the Relationship between Composers and Their Environments**

Relying on Deibert and Lemke to provide general ecological approaches to human activity and meaning-making, I turn to literacy and composition research that examines composing from an ecological perspective. These scholars emphasize the
connections between composers and texts; the relationship between material and
symbolic space, composing, and identity; and the new connections made possible when
composing takes place within networked environments constituted by individuals, texts,
technological tools, and virtual spaces.

Early ecological approaches to literacy and composing focus on the connections
between texts and people. Central to David Barton’s conception of literacy ecology is the
extent to which literacy is found in almost every facet of twentieth century life (32, see
also Barton and Hamilton). However, Barton does not directly address how literacy’s
ubiquity relates to the dynamic, interrelated systems that form an ecology. Marilyn
Cooper’s “ecology of writing,” however, describes the dynamic set of mutually
influential systems that come together during the writing process:

<table>
<thead>
<tr>
<th>System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System of ideas</td>
<td>How writers understand and interpret the world</td>
</tr>
<tr>
<td>System of purposes</td>
<td>What writers hope to achieve with their writing, affected by both individual and group motivation</td>
</tr>
<tr>
<td>System of interpersonal interactions</td>
<td>How writers regulate access to one another</td>
</tr>
<tr>
<td>System of cultural norms</td>
<td>How writers locate themselves in the groups out of which they write</td>
</tr>
<tr>
<td>System of textual forms</td>
<td>How writers communicate, using linguistic and formal conventions</td>
</tr>
</tbody>
</table>

3 While Barton and Hamilton do talk about the circulation of literacy practices across different areas of life (like doing photocopying or typing for community projects at work or reading trade journals at home) their approach to these acts of transfer is anecdotal, rather than systematic like my analysis here. They depict study participants engaging in related literacy activities across family, work, and fan spheres of their ecologies, but Barton and Hamilton do not focus on how this movement happens or the extent to which individuals’ literacy practices change as they move across contexts.
The systems Cooper identifies locate writers in a complex social ecology that connects them to colleagues and audiences. These five systems overlap and intersect with each other during the writing process. For example, a writer shifts their purpose and audience from communicating with disciplinary colleagues in a field-specific journal like *College English* to writing for a general academic audience in a publication like *The Chronicle of Higher Education* will need to change

- how they position themselves and address their audience (cultural norms);
- the style, scope, and tone they use (textual forms); and
- the evidence and persuasive strategies they use (ideas).

Cooper does not, however, detail the specific ways these systems influence one another. This study builds on Cooper’s work to investigate how, for example, the systems of ideas and interpersonal interactions interact around a specific digital composing task.

Cooper’s focus on the social relationships and rhetorical expectations that affect composing does not address the role tools, technical knowledge, and physical work environments play in composing. As my mock-up anecdote above illustrates, composers’ institutional and interpersonal relationships are important, but so are the tools and workspaces they use. This study focuses on how literacy tools and knowledge enable digital composing, building on Syverson’s ecology of composition. Like Lemke, Syverson draws attention to the significance of material conditions relating to writing tools, working methods, and the embodied experience of writing (18-19). In addition to the social dimensions of writing ecologies that Barton and Cooper describe, Syverson highlights the impact non-human objects have on composing:

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4 As I discuss in more detail below, Cooper’s more recent work *does* address the materiality of (digital) composing. The ecology of writing she outlined in 1986 (which I describe here for literature review purposes) does not.
The knowledge involved in “writing” [...] depends on activities and communications shared in interactions not only among people but also interactions between people and various structures in the environment, from physical landmarks to technological instruments to graphical representations [...] (12)

Syverson’s focus on the material and social conditions of writing is a move Cooper has also made in her more recent work, connecting relationships with other writers and audiences to embodied experiences of tool use and interaction with environmental stimuli (“Being” 18-20). Syverson and Cooper describe how writing happens in literacy ecologies by emphasizing composers’ access to tools and environments and the embodied experiences of working with(in) them.

Ecocomposition’s approach to studying composing also takes up Syverson’s and Lemke’s focus on the interaction between writing’s material and cultural environments. Beyond the physical interactions between writers and tools that Syverson describes, Sidney I. Dobrin5 calls on compositionists to recognize how the natural and built environment shapes writing, arguing that writers are ecological beings. Writers become a part of an environment; they are a product of that environment. They write themselves into the order of a system, and they help define the system [...] Writers engage in a circular reinscription of place and environment that in turn writes who they are as writers. (“Writing” 19)

Dobrin’s “circular reinscription” recalls Lemke’s argument for how humans’ semiotically-motivated actions influence the ecological systems that shape them.

Ecocomposition complicates the idea of context by positioning writers as both products and producers of their environments. Instead of seeing context as a static backdrop that

5 I draw here on Dobrin’s ecocomposition work from the early 2000s, contrasting it with his recent post-human work on writing ecologies, described below and in Appendix A: Complexity Theory-Based Approaches to Writing Ecologies.
exerts predictable influence on the people caught within it, ecocomposition redefines context as the dynamic intersection of systems that the writer—along with other people, objects, and discourses—helps shape, (Dobrin “Writing” 21).

Christian R. Weisser’s description of how ecologies provide individuals with resources is also central to my discussion below of the role literacy resources play in digital composing. Like Dobrin and Lemke, Weisser draws attention to the physical, virtual, and social dimensions of ecologies to argue that

we are the products of our connections with an array of locations and the inhabitants thereof. […] But, our experiences and the activities that generate them always depend on shared resources. Our identities are shaped and enriched by our contact with others in specific settings […] (86-87)

The “array of locations” that Weisser identifies foreshadows the family, peer, school, professional, public, and corporate contexts within which I situate study participants.6 Beyond the kind of identity-construction he describes, these contexts (which, as Dobrin asserts, are themselves dynamic) provide individuals with shared resources they can apply to digital composing tasks.

The array of locations Weisser describes introduces another dimension of ecology that scholars like Elizabeth Wardle and Kevin Roozen and Ken Gillam use to describe how individuals acquire literacy. Building on Barton’s argument for the ubiquity of literacy in everyday life, these scholars call for approaches to writing instruction and assessment that account for the literacy experiences students accumulate across academic and extracurricular contexts. Gillam calls composition teachers to attend to students’ writing conditions outside the classroom by considering their access to writing practice

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6 I explain and define these contexts in more detail in Chapter 2—see Table 10.
and role models, technology tools and skills, attention and distraction, time for planning and writing, and comfortable work environments (47). He recommends a pedagogy that asks students to write about the material and social locations they write from, in order to raise students’ awareness of the family, school, work, and public systems that affect their composing (56-63). In Chapter 4, I address how several of the factors Gillam highlights affect groups working on digital composing projects, and I suggest metacognitive activities to help negotiate the composing challenges that can arise within and across different composing environments.

Operating under Gillam’s and Barton’s premise that students use and learn literacy throughout family, peer, school, work, and public contexts, Wardle and Roozen criticize models of writing development that focus too narrowly on school and on “vertical” learning over time. Instead, they propose an ecological model of literacy development that emphasizes the polycontextual, “horizontal” nature of students’ literacy experience. They assert that researchers often frame writing development in terms of newcomers absorbing the “beliefs, values, and interests” of a community of practice (108). While Wardle and Roozen do not refute these models, they argue that the vertical approach fails to consider the extent to which individuals experience literacy “polycontextually,” in the multiple communities defined by family, peers, and work, as well as school (108-109). Instead, they argue that literate development consists of individuals learning to transport boundary objects—“actors, artifacts, and knowledge” that are flexible enough to apply in different contexts but distinct enough to be recognizable—across different contexts for use in different tasks (109). Wardle and
Roozen’s polycontextuality and boundary-crossing inform the way I trace the movement of literacy resources across the systems that constitute participants’ literacy ecologies.

Ecologies for Digital Composing

While the previous discussion has drawn on research focusing on writing, the digital nature of the composing tasks around which my study focuses adds material and conceptual complexity to participants’ literacy ecologies. In the past decade, scholars have extended Syverson’s “technological instrument” thread to theorize literacy ecologies as dense, emergent networks populated by both human and nonhuman actors. Composing, even alphabetic composing, increasingly takes place in digital environments, highlighting the extent to which the act of composing involves not just human beings, but also technological tools like computers and software. Danielle Nicole DeVoss, Heidi McKee, and Richard Selfe combine the technologically-mediated scene of twenty-first century composing with the social dimensions of ecology that Cooper and Syverson describe to argue that

Together, computerized writing environments (e.g., physical spaces, hardware, software, and networks) and the humans who use and support such technologies comprise complex ecologies of interaction. [...] Local and larger infrastructures of composing are critical to digital writing practices and processes. In academia, specifically, all writing is increasingly computer-mediated; all writing is digital.  

The kind of literacy ecology they sketch out is the one I investigate in this study: I look at how groups of digital composers bring together technical knowledge, physical workspaces, hardware, and software around a specific digital composing task. I focus on how individual group members gather these resources from different parts of the

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7 This definition of technology ecology comes from DeVoss, McKee, and Selfe’s description of their project, not from the ebook itself. Link to project description: [http://ccdigitalpress.org/ebooks-and-projects/tes](http://ccdigitalpress.org/ebooks-and-projects/tes).
ecologies in which they are located and how the group applies these resources to their composing task. I consider especially how the task, the resources that support it, and conditions of access to these resources affect one another. The resources that group members apply to the composing task connect it to other systems within their wider literacy ecologies. This means that changes in those systems also affect the task, such as when one member of the composing group breaks the personal computer he was using to compile his group’s project, losing a considerable amount of their work. However, by virtue of this same connection, applying resources to the group task can also affect the systems from which those resources are drawn, either by using them in new ways or by connecting people to new resources and (possibly) the systems from which those resources were drawn. This can happen, for example, when a student in a digital composing course learns how to create audio essays as part of a group assignment then goes on to create audio remixes of old family letters as part of a family history project, using the audio production software and editing techniques she encountered while working alongside group members with a background in audio engineering.

Like the pieces in DeVoss, McKee, and Selfe’s collection that are concerned with the “complex ecologies of interaction that support writing programs, writing centers, research centers, and community programs within academic institutions,” my ecological approach sees the university as one of several large and complex systems that provides many of the resources that support the group digital composing tasks I study. I also identify other family, peer, professional, and public systems (institutions) that provide resources for the task, emphasizing the connections that members’ polycontextuality creates between these systems. As I argue below and in the chapters that follow, the
connections created between group members and resources drawn from diverse systems make it possible for group digital composing tasks to broaden access to digital literacy resources.

My discussion of how group members gather resources to support digital composing tasks sets the stage for examining how these digital literacy resources enter classroom and faculty projects from the wider literacy ecologies in which they are located, highlighting the circulation and flux which characterize twenty-first century scholarship on literacy ecologies. Dobrin argues that the way people compose and share digital texts draws attention to the networked nature of contemporary literacy and calls on scholars to change how we think about writing:

> Because digital technologies and digital literacies […] have been described in terms of metaphors like webs and networks, theorizing the functions of their connectivity and their relational properties has become central to understanding how technologies (of writing) function in conjunction with the invention, production, circulation, remix, and recirculation of writing. (Introduction 7)

Digital composing’s use of networked technologies highlights the extent to which the people, physical spaces, hardware, software, and institutions DeVoss, McKee, and Selfe identify are connected to outside agents and projects. As a result of this interconnection, Colin Gifford Brooke argues, changes in other systems can have rippling, unintended effects on specific composing tasks (28). Because of their size and dense interconnection, Cooper explains that change in systems is “nonlinear […] and arises not as the effect of a discrete cause, but from the dance of perturbation and response as agents interact” (“Rhetorical” 421). The links between systems are good because they can connect different parts of the ecology. These connections can potentially bring together
unconnected resources during a composing task, perhaps affecting the systems from which they were drawn by circulating resources between them.

To provide a quick illustration of how this can work, I offer the example of a member of one of the faculty groups from the edited collection research site. The editors invited Joyce and her coauthors—all well-known Black female professors who study race, gender, community, and literacy—to propose an exhibit. Because none of the coauthors had published digitally before, they worked with a designer (a white male undergraduate), submitting content to and meeting with him to plan and revise the exhibit design. Although the designer did all of the production work for the exhibit, the experience of working on the exhibit (along with other factors) encouraged Joyce to think about incorporating digital media production into the community program she ran for Black adolescent girls:

I’m working with the girls at the middle school, and I want to be able to […] add another level to it, when you get them to creating their own narratives and their own stories and their own stuff. […] working with youth in the community, you got to get on technology. If not, you’re yesterday. Real, real way back there yesterday. […] I want to be able to use what they are into to keep them engaged. [emphasis in original]

To incorporate digital production activities into her work with the community, Joyce enrolled in a professional development institute for faculty in which participants discussed and prepared materials for integrating digital media into their research and teaching. Joyce’s experience illustrates how a middle-aged, Black female professor, a first-generation college student who grew up in the inner city, gathered digital literacy resources across successive digital composing projects. The techniques participants like Joyce used to gather resources around a task, apply them, and circulate them back out
into other ecological systems through their work on future tasks provide models for approaching digital composing in a literacy ecology.

**Challenges to Studying and Teaching Digital Composing in Literacy Ecologies**

For a project like this one that concerns itself with pedagogies for digital composing which address the unequal distribution of resources, ecology theory poses some problems. Scholars like Dobrin emphasize the complexity and dynamism of the systems that make up literacy ecologies, questioning the extent to which individuals can learn or act deliberately (Postcomposition 130, 131). Hawk and Cooper, however, investigate the possibility of human composing and meaning-making in complex, dynamic literacy ecologies. They argue for a type of agency based on action, which emerges as people interact with, affect, and respond to other ecological elements. The difference between Dobrin’s position and Hawk’s and Cooper’s approaches seems to be scale. Dobrin emphasizes emergence, irreducible complexity, and the impossibility of agency because he looks at ecologies as wholes. Looking at a part of an ecology, on the other hand, limits the scope of complexity, while keeping in mind that local systems are connected to the global ecology, as Deborah Brandt and Katie Clinton assert. Looking at the systems and subsystems which make up literacy ecologies allows scholars like Hawk, Cooper, and me to investigate opportunities for human action and learning.

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8 The ecologies within which I situate digital composing in this study are primarily informed by literature I review above describing writing ecologies, ecocomposition, and technological ecologies. Although I draw some in the following sections of this chapter on complexity theory-based approaches to ecologies (Hawk and Brooke), for the most part I reject the posthuman, network-centered approaches to ecology described in recent work by Dobrin and others. This is because posthuman approaches to ecology (represented here by Dobrin) largely 1) dismiss much of the social context for composing and 2) deny the possibility of deliberate action. Both of these components are fundamental to the approaches to digital composing which I develop throughout this study. For a discussion of recent posthuman, network-centered work on writing ecologies, see Appendix A: Complexity Theory-Based Approaches to Writing Ecologies.
For Hawk, humans have agency because they can interact with other ecologically-situated people and objects, even if there is no objective position outside the ecology from which to make the decisions that direct their actions (Counter-History 177, 178). Cooper’s argument for the emergence of agency in complex systems also asserts humans’ ability to act with awareness in relation to other ecological elements:

though the world changes in response to individual action, agents are very often not aware of their intentions, they do not directly cause changes, and the choices they make are not free from influence from their inheritance, past experiences or their surround. […] Agents do reflect on their actions consciously; they do have conscious intentions and goals and plans; but their agency does not arise from conscious mental acts, though consciousness does play a role. Agency instead is based on individuals’ lived knowledge that their actions are their own. (“Rhetorical” 421)

Humans become agents through action, although they act under the influence of the ecology in which they are located. Cooper argues that this enacted form of agency exists when

organisms create meaning through acting into the world and changing their structure in response to the perceived consequences of their actions […] “the changes that result from the interaction between the living being and its environment are brought about by the disturbing agent but determined by the structure of the disturbed system.”9 (“Rhetorical” 426)

Like Hawk, Cooper emphasizes the role perception plays in human agency and the primacy of action, regardless of its origin. She argues that although human intentions do not actually cause the changes their actions create, this “illusion” of free will prompts humans to act, resulting in agency (“Rhetorical” 439). These actions involve humans in

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9 Cooper cites neurophenomenologists Humberto R. Maturana and Francisco J. Varela here. The reference comes from The Tree of Knowledge: The Biological Roots of Human Understanding. Trans. Robert Paolucci. Rev. ed. Boston: Shamhala, 1998. Print. Pg. 96, emphasis in original. Cooper is talking here about the human brain changing physiologically/chemically in response to environmental stimuli. I focus in this study on developmental and behavioral changes in response to ecological conditions that can, in turn, affect the actor’s ecology. Despite our differences, I draw on Cooper here because of her nuanced defense of agency within determining ecological systems.
the process of modifying existing systems and creating emergent ones within a complex literacy ecology.

The study I outline in the following section uses an ecological approach informed by the work of Syverson; Cooper; Hawk; Wardle and Roozen; and DeVoss, McKee, and Selfe to examine how groups of students and faculty approach digital composing tasks in literacy ecologies made up of interconnected subsystems containing literacy resources located in texts, objects, and other human beings. As described below, I look at the extent to which the “determined” nature of agency Cooper describes allows individuals to access literacy resources while working with others on a digital composing task. Drawing on the experiences of participants, I suggest ways of approaching digital composing tasks that guide individuals and groups toward taking advantage of the opportunities for literacy resource access and transfer digital composing tasks create. These approaches cannot guarantee digital literacy development, but they provide a framework through which individuals can approach digital composing tasks as agents in their literacy ecologies.

An Ecological Approach to Studying Group Digital Composing

Terminology and Approach

I present a series of case studies examining how individuals working together in groups approach digital composing tasks. These case studies examine how group members use resources from the literacy ecologies in which they are located to support their group tasks. Two of the sites are classroom-based, focusing on students in technology-intensive first- and second-year writing courses. The third site involves academics (faculty and graduate students) creating digital scholarly publications for an
The case studies in the following chapters focus on the tools group members used, the expertise they sought out, the ways group members worked together on the task, and the relationship between groups’ composing processes and their workspaces. To characterize this kind of task-specific research on composing in an ecological context, I adopt Hawk’s terminology of “spheres” to refer to the small, local scale through which individuals experience the larger systems that make up literacy ecologies (“Curating” 174). He argues that spheres’ small size make them “good at describing local, fragile, complex conditions that network theories can’t account for” due to their size and level of abstraction (“Curating” 174, 175). Operating at the level of spheres allows me to trace the individual circulations, interactions, and changes that characterize digital composing in a literacy ecology.

Situating digital composing ecologically draws attention to the role access to resources and circulation plays in supporting group digital composing tasks. This resource-based approach frames literacy resource transfer differently, seeing literacy performance as enabled by resources that flow through a system, or through intersecting systems, via individuals and organizations, instead of viewing literacy as an individual

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10 My use of Hawk’s sphere terminology parallels Marcia Farr’s description of the “domains” in which the Chicago mexicanos she studied engaged in literacy activities. She emphasizes domains rather than literacy practices to highlight the social relationships within which Farr situates literacy (29). Although, like me, Farr describes (print) literacy performance in terms of literacy materials (such as religious books, magazines, and pens/pencils for home catechism classes) and literacy knowledge (such as how to decipher written immigration documents or how to respond to a letter from a school official), her focus is on a single compadrazgo/kin social network and the way literacy materials and knowledge function as a fund of knowledge members of the network share (28). As a result, Farr emphasizes how participants seek out literacy knowledge from other members of the network to respond to specific literacy needs that arise in the domains she identifies (family/home, religion, commerce, the state/law, and education) (29). Although Farr mentions literacy materials and knowledge that enter the social network from outside, her community-based study and the close, dense, reciprocal relationships that connect her participants foreground the social network and locate literacy learning opportunities within it. My study, on the other hand, does not position participants as having this kind of primary affiliation (it is a task-based, not community-based study), and my focus is on the effects that connections to multiple spheres have on individuals and groups working on composing tasks.
possession. I have been using the term “resources” throughout this chapter to talk about the knowledge and objects that make digital composing possible. I use resources to describe what Brooke calls the “code” scale of a literacy ecology: “resources for the production of interfaces” more broadly construed, including visual, aural, spatial, and textual elements, as well as programming code” (48). As my discussions of group dynamics and space in Chapters 3 and 4 illustrate these “resources” are not limited to technical tools and skills. Following Andrew Feenberg, I look at the patterns of access and use “sediment[ed]” into individuals’ and groups’ routine use of these resources (Critical 14), showing one way in which “social dimensions of technological systems belong to the essence of technology” (Question 17). My resource terminology and ecological approach situate technology within social systems inflected by gender, race, class, age, and educational/professional background. These resources circulate through literacy ecologies, carried between spheres by individuals responding to composing tasks.

I distinguish in this study between the material and intellectual literacy resources that DeVoss, McKee, and Selfe identify as essential supports for digital composing tasks, adapting Barton and Hamilton’s concept of literacy resources as the materials, space, time, and support that make engaging in literacy practices possible (191-192). I expand their definition to categorize space as a material resource and recast “support” as an intellectual resource in order to address the technical and rhetorical expertise required to use material digital literacy resources effectively:

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Brooke argues that rhetoric and composition needs to shift from thinking in terms of texts to thinking in terms of interfaces, which emphasize not the finished textual product but the boundary where author and reader, media contained in the piece, and the mode of its access come together to create an opportunity for meaning making, rather than a pre-defined, static textual object (24-25).
Table 3: Defining Material and Intellectual Digital Literacy Resources

<table>
<thead>
<tr>
<th>Material Digital Literacy Resource</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools and objects that support digital composing</td>
<td>Computers, cameras, software, physical and virtual workspaces</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intellectual Digital Literacy Resource</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical knowledge of how to operate a composing tool or rhetorical knowledge about how a digital text should be composed</td>
<td>Ability to operate software, design/usability sensibility to create a genre- and audience-appropriate digital text</td>
<td></td>
</tr>
</tbody>
</table>

My definitions of material and intellectual resources parallel the technics ("instruments or artifacts") and technology ("practical or applied knowledge") level of Deibert’s ecological holism model, allowing me to think about circulating resources both as material (or virtual) objects and as ideas governing the use of these objects. Distinguishing between material and intellectual resources is important because, although they depend on each other, they circulate and are accessed differently. My intellectual resources encompass Stuart A. Selber’s functional and rhetorical digital literacies, which focus on being able to operate technologies proficiently (functional literacy) and create context-sensitive multiliterate texts (rhetorical literacy) (45, 147). In my case studies, digital literacy resources related to functional and rhetorical literacy goals were often bound together, available to the same person or accessed simultaneously. This is why I combine them into a single “intellectual resource” category in this study.

Although Deborah Brandt talks about literacy as a resource, rather than specific literacy resources (Literacy 5-8), we draw similar relationships between composing tasks and access to literacy resources: literacy “[l]earning also appeared as surplus, as a by-product of performing tasks, an inevitable outcome of putting literacy resources into
service” (*Literacy* 6). My study looks at how the circulation of literacy resources around a task creates the kind of surplus Brandt describes, encompassing both types of literacy acquisition she describes:

Table 4: Comparing Brandt's Literacy Learning and Literacy Development Concepts

<table>
<thead>
<tr>
<th>Literacy Learning</th>
<th>Specific occasions when people take on new understandings or capacities; as we will see literacy learning is not confined to school settings or formal study (<em>Literacy</em> 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy Development</td>
<td>The accumulating project of literacy learning across a lifetime, the interrelated effects and potentials of learning over time. It is closely connected to the life space and to historical events (<em>Literacy</em> 7)</td>
</tr>
</tbody>
</table>

In order to complete their composing tasks, participants in my study drew on digital literacy resources they had previously accumulated, often through previous tasks (literacy development). On other occasions, they sought out new resources to address new challenges they faced while working on their current task (literacy learning). Brandt states that deliberately seeking out of new literacy skills (literacy learning) and casually accumulating literacy skills (literacy development) often overlap and can be difficult to parse in specific literacy opportunities because of the “relationships to social and economic structures that condition chances for [literacy] learning and development” (*Literacy* 7). Group digital composing tasks naturally provide opportunities for both literacy learning and literacy development. Framing these tasks as opportunities for literacy learning can help realize their potential to grant group members access to resources contributed by other members. Attending to the resources group members bring to the task from literacy experiences and connections in different spheres highlights the
role group digital composing can play in providing access to material and intellectual resources.

Research on access in the field of computers and composition has moved beyond the binary rhetoric of the digital divide, leaving behind simplistic discussions of student/computer ratios and home Internet connectivity rates to politicize and culturally critique the concept of access. Scholarship on barriers to the three aspects of technology access James E. Porter identifies—

- physical access to technology (Grabill “On Divides”, Moran and Selfe, Pavia),
- expertise supporting the use of technology (Selfe and Hawisher, Scenters-Zapico), and
- community uptake of and attitudes toward technology (Monroe, Powell “Access(ing)”, Blackmon, T. Taylor, Wilder and Dressman)

—illustrates how complex the issue is. Scholarship highlighting the barriers created to digital literacy development when individuals cannot shape the technology environments in which they work (DeVoss, Cushman, and Grabill) and the goals directing their digital literacy education (Grabill “Utopic”) points to the need for research that studies the kind of agentive or transformative access Powell (“Accessing,” “Roots”) and Banks describe. While acknowledging economic, educational, and cultural barriers to technology access, agentive and transformative approaches to access look at how people use the technologies available to them. Rather than emphasizing only deficits and barriers, I follow Powell and Banks to look at how individuals negotiate these obstacles to access resources to refame deficit and divide in terms of practice and action.

My investigation of how groups of digital composers gather, share, and use digital literacy resources in particular workspaces is simplistic if it does not take access seriously. Simply saying that resources are located in spheres, and that spheres intersect
at the points where people and resources circulate between them does not explain how and where individuals access resources. Neither does it address the role that boundaries between spheres play in facilitating circulation between them (or not). For example, several of the digital literacy resources the opening anecdote speculates that my former students may have taken advantage of (campus labs and tech support, committed group members) are found in spheres located within the university as a larger system. The select population served by the university’s technology support services points to the problematically circular nature of access to literacy resources. Resource-rich ecological spheres are often connected to each other, meaning that people with access to many resources through one sphere are also likely to have access to other spheres that contain a variety of resources. For others, however, Jeffrey Grabill argues that

Taken together, income and education form the foundation for a profile of those who fall into subordinate class positions with respect to access to computer technology and institutions that require access (e.g. “good” schools and jobs). […] It is fair to say that groups and individuals who fit the profile of those without access form a fluid, multiple, and complex class position of the technopoor. For visible socio-economic reasons—most powerfully income and education—the technopoor’s relation to institutional access with computer technologies is one of hierarchical exclusion. (460)

Grabill links the expense of material digital literacy resources like computers and software to the time and support required to learn how to use them. As a result, spheres often contain both material and intellectual digital literacy resources, or neither. This study argues for the potential that group digital composing tasks have to challenge some of the barriers to access Grabill describes by bringing together with access to resources located in different spheres. As I argue in the following chapters (especially Chapter 3),
the process of working on the group composing task can provide opportunities for digital literacy learning through resource transfer between members.

So far I have been using “transfer” unconventionally to describe how digital composers move literacy resources across ecological spheres in order to apply them to composing tasks. Defining transfer this way deviates from compositionists’ typical use of the term to describe students’ ability to write discipline- and field-specific texts using the genres, rhetorical sensibilities, or argumentation strategies they learned in previous classes (see Smit End, Beaufort, Bawarshi and Reiff; Devitt, Wardle). My use of the term builds on literacy theorist Roz Ivanič’s description of how individuals apply micro-practices12 developed in one sphere to literacy tasks in others spheres by combining and recombining them in response to the demands of each new task. Similar to Rebecca S. Nowacek’s study of the extent to which students in an interdisciplinary humanities program transfer writing strategies between different disciplines, this study looks at the relationships between composing tasks located in different spheres.13 Like Nowacek (121), I argue that transfer happens when composers recognize similarities between composing tasks in different spheres, prompting them to draw relevant intellectual

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12 Ivanič argues that the term “literacy practice” has been used too broadly in the literature to describe everything from “what is done with written texts” to “any social practice which is textually mediated” to “small-scale ‘micro’-practices—the way in which one or a subset of the constituent elements of a practice is played out” (100). Drawing on the same activity theory terminology Wardle and Roozen use, Ivanič positions micro-practices as boundary objects that can cross contextual boundaries and be adapted to new demands (primarily through [re]combination with other micro-practices), but which retain enough of their own qualities to be recognizable as distinct micro-practices (111-114).

13 Jody Shipka’s work linking what students learn about writing in composition courses to the literacy resources they encounter in other school, peer, and work spheres offers another example of the kind of micro-practice transfer I investigate in this study. Shipka (Toward) describes how a dance major drew on both her knowledge of kinetic semiotics and her dance department colleagues to create a multimodal assignment for Shipka’s composition course. The in-class performance the dance major orchestrated illustrates how intellectual and material resources can be transferred across different spheres through the composer who links them together.
literacy resources from one sphere to another. However, because of my focus on digital group composing, I also examine the role of material literacy resources and the circulation of literacy resources within composing groups as they work in particular physical and virtual spaces.

Furthermore, Nowacek studies students’ transfer of genre-specific writing strategies between predefined disciplinary spheres (the literature, history, and philosophy courses in which they are simultaneously enrolled). My ecological approach, on the other hand, emphasizes the variety of spheres from which participants drew literacy resources. In addition to classrooms, the sources from which participants in my study gathered resources included peer groups, family members, professional relationships, corporate technical support, crowd-sourced technical support, and universities.

The case studies I present of student and faculty digital composers extend Barton and Hamilton’s and Michele Knobel’s work on how individuals successfully or unsuccessfully transfer literacy resources across ecological subsystems to perform composing tasks. I also examine how ecological conditions like patterns of task organization and the characteristics of physical and virtual space affect group members’ ability to use these literacy resources in the task-based sphere and transfer them into other spheres for application to future composing tasks. Specifically, I examine:

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14 My argument for seeing literacy performance as enabled by component parts that can be transferred across spheres within a literacy ecology may raise red flags for some readers. It sounds dangerously similar to the ahistorical, universal(izable), skills-based models of literacy Brian V. Street and Harvey J. Graff critique, against which composition and New Literacy Studies scholars position themselves. However, I argue that transferred resources retain some of the “flavor” of their original context as they move across spheres, which is particularly evident in the ways in which the resources circulate (or not) among group members. I also suggest ways in which applying gathered resources to a task can change them, further illustrating literacy resources’ blend of stability and change.
• how digital composers gathered literacy resources around specific challenges they faced while working on digital composing tasks
• how access to resources in other spheres shapes the group’s emergent organizational dynamics and how these methods of structuring the task affect the circulation of literacy resources between group members
• how the physical and virtual spaces where groups of digital composers worked functioned as material literacy resources that shaped individual members’ contributions to the composing task and access to the resources gathered around it

These three angles of inquiry, around which I focus the chapters that follow, help answer the questions that underpin my study as a whole:

• Where do the resources that support group digital composing come from?
• How do individual group members access and apply them to a digital composing task?
• How do these literacy resources circulate among members while they work on the composing task?
• To what extent can individual group members access new digital literacy resources by participating in group digital composing tasks?
• How do groups’ inhabitation of (work)space as a material resource influence how the group approaches their task?
• How might their co-construction of (work)space affect the way others perceive and use that material resource?

As I mentioned earlier, the answers my case studies provide to these questions have pedagogical implications, from which I draw strategies for teaching group digital composing.

With these research questions in mind, I conclude the chapter by describing my three research sites, discussing the study’s design and methods, and previewing the themes around which the following chapters focus.

Site 1: Laptop-Based First-Year Writing Course

The laptop pilot program run by the First Year Writing Program at State University, a large, public, Midwestern research university located in a mid-sized city, turns “traditional” classrooms into technology-rich writing labs using students’ own
laptop computers. Instructors generally use the Program’s standard assignment sequence, which centers around an eight- to ten-page analytical research paper. Students write the paper in stages which guide them through close reading of a primary source, finding and analyzing secondary sources, and drafting the final essay (see Appendix C: Laptop Section Analytical Research Paper Prompt). To satisfy the First Year Writing Program’s “public writing” component, Kristy, the laptop section instructor, added assignments that asked students to compose in social media platforms (a course blog, Twitter, and Storify), designed to extend their engagement with the course theme, “Rhetoric and the Social Media Era.” The laptop section took place during the winter of 2012, and was fully enrolled with twenty-four students. The students were traditionally-aged, first-year college students, with equal numbers of women and men. The class was predominantly white, with a quarter of the students identifying as non-white:

Table 5: Racial Demographics of Laptop Section, Given in Real Numbers

<table>
<thead>
<tr>
<th>Racial Identification</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>5</td>
</tr>
<tr>
<td>Black/African-American</td>
<td>1</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>18</td>
</tr>
</tbody>
</table>

Early in the term, Kristy placed the students into groups of four, and students sat according to group for the rest of the term. Although all course assignments were graded individually, students worked in groups to practice the analysis, research, and writing

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15 The First Year Writing Program’s standard curriculum includes a public writing component that asks students to reframe their research project for a general audience. The aspects of the course I focus on in this study mostly concern the process of drafting and revising the analytical research paper, so I will not go into detail about the “Social Media as Public Academic Discourse” assignment sequence the instructor developed to satisfy this aspect of the First Year Writing Program curriculum. See Appendix B: Laptop Section Syllabus for more information about laptop section’s social media assignments.
skills they learned in the class. Given the course theme and laptop-based composing environment, groups also discussed technology-specific writing topics as they came up, such as how to troubleshoot difficulties logging into the class blog, how to appeal to readers’ expectations writing for tweets versus blog posts versus academic essays, and how to talk critically about web-based pop culture texts.

Digital composing played a major role in the laptop section, despite its “traditional” curriculum. Because students brought their laptops to each class meeting, Kristy’s in-class activities often called on groups to practice the kind of writing they would do for their major paper by doing things like looking at a sample text online, discussing it, drafting a paragraph analyzing the text, and sharing those paragraphs with the class. While working on their social media assignments, students posted on Twitter and the class blog during and outside class. Students also shared drafts and feedback digitally during in-class peer review workshops.

In addition to writing extensively in digital environments, digital composing also became a topic of discussion in the course. Kristy frequently shared tips with the class from her extensive experience as a teacher, producer, and scholar of digital writing and multimodal composing. She was familiar with hardware and software configuration and repair, and encouraged students to see personalizing their digital writing environments as a part of their development as writers. Kristy also did minor hardware repairs when students’ laptops occasionally malfunctioned, and frequently recommended free programs students might find useful. As a result, Kristy engaged students in discussions about their laptops as composing environments, encouraging them to think carefully about things like screen real estate, document archiving, and applications to
ease/automate composing activities. Following Kristy’s lead, group members frequently discussed how to work on group activities and the individual assignments to which those activities were linked. These kinds of process-oriented activities point to the opportunity group work in the laptop section provided for students to exchange and acquire digital literacies.

**Site 2: Community Literacy-Themed Second-Level Writing Course**

During the fall of 2011, Lisa, a State University professor, and two assistant instructors, Sylvia and Donna, taught a second-level writing course in which undergraduates, graduate students, and community members collected and analyzed literacy narratives from members of local Black churches. Instead of meeting on the main university campus, the community literacy course met at a university-run community center located several miles away in the historically-Black neighborhood where the churches were located. The diversity of the class’s participants, the course’s focus around an extended group digital composing task, and its community location make the community literacy course a particularly valuable site for studying how individuals access and share literacy resources. The course brought together individuals with connections to very different literacy ecology spheres, shedding light on the potential for literacy resource transfer among group members working on a digital composing task. The community literacy course was two-thirds female and very diverse in terms of race and relationship to the university:
Table 6: Racial Identification and University Affiliation of Community Literacy Course Participants, Given in Real Numbers

<table>
<thead>
<tr>
<th>Race</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>1</td>
</tr>
<tr>
<td>Black/African American</td>
<td>10</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship to University</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Member</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>2</td>
</tr>
<tr>
<td>Undergraduate Student</td>
<td>9</td>
</tr>
</tbody>
</table>

The class also included a broad age span, from traditionally-aged undergraduates to working, non-traditionally aged undergraduates and graduate students to retired senior citizens.

The instructors placed participants in groups of four to six members, and each group was responsible for completing a two-part digital composing task:

- recording audio and/or video literacy narratives and uploading edited narratives to an online database
- creating a multimodal final project that used written, visual, and video content to 1) analyze the relationship in the narratives between literacy and the Black church and 2) report on what group members learned while working on the project.

To help groups manage the work of scheduling and conducting interviews, handling interview footage, and analyzing and re-presenting that footage in their final projects, Lisa, Sylvia, and Donna built explicit discussions of group work and project management into the course (discussed in Chapter 3). The instructors taught participants how to record, edit, and upload digital audio and video footage to an online database of literacy narratives. For the final project, however, groups were responsible for creating their final multimodal project using the software of their choice. Members described the final
project as a period of intense work that included independent and group work, supported by literacy resources members gathered from family, professional, and/or public spheres (in addition to those school-based provided by the instructors). The community literacy course’s final project phase, in particular, provides opportunities for studying the circulation of digital literacy resources not only across different spheres, but between group members as they worked on their composing task.

Site 3: Stories about Literacy Edited Collection

In the spring of 2010, a call for proposals was issued for the Stories about Literacy (SL) collection, an edited collection of multimodal, digital scholarly projects drawing on material from a public, online database of digital literacy narratives (see Appendix F: Call for Proposals for the Stories about Literacy Edited Collection). The call stated that exhibits had to be “born digital” and contributors should “comment explicitly on the intellectual work that video, audio, or alphabetic literacy narratives accomplish within this theorized context given their particular affordances” (emphasis in original). The SL site expands the scope of the digital composing tasks included in this study. Student work in the laptop section focused on academic and social media writing. The community literacy course called for a multimodal final project limited to the scope of a single course. The SL editors, however, asked faculty and graduate student contributors to produce a digital scholarly publication that not only incorporated alphabetic, audio, and video content, but also discussed its affordances.

Although five of the sixteen collection pieces were created by single authors, for the sake of comparison with the classroom-based sites I focus in this study on the
collection’s nine co-authored exhibits.\textsuperscript{16} I interviewed \textit{SL} participants in the winter of 2012, when the collection had reached the final review phase and the exhibits were all but complete. The contributors came from eleven different colleges and universities, represented different academic ranks from graduate students to distinguished and emeritus professors, and approached the task with varying levels of experience and interest in digital media production. As a result, their experiences shed light on access to digital literacy resources at different kinds of institutions and through formal and informal professional associations. Study participants varied considerably in terms of gender, age, professional status, and location, although not in terms of race:\textsuperscript{17}

\textsuperscript{16} The 16 exhibits I count here do not include the foreword or afterword, because the authors of those pieces wrote an alphabetic text which the collection’s designer fit into a template he constructed. Interviews with the collection designer and the afterword author indicated that the foreword and afterword authors did not engage in the kind of design choices and critical reflection about digital environments as composing resources which the other participants in this study did. I also count 2 exhibits here as “group-authored” where the single author listed for the piece worked with a designer (credited as the exhibit “designer”) who did not contribute any content to the piece. In this case, the listed author of the piece and the designer worked together to develop a structure for the exhibit, design its visual layout, and create media objects, engaging in similar processes of accessing digital literacy resources and circulating them around the task that went on in other groups in the \textit{SL}, community literacy course, and laptop section sites.

\textsuperscript{17} In addition to the fact that 17 of the 23 \textit{SL} participants identified as white/Caucasian, the 3 who identified as Black/African-American were coauthors on the same exhibit, illustrating the racial homogeneity of the exhibit composing groups.
Table 7: Gender, Race, Age, Professional Status, and Location Information for SL Participants, Given in Real Numbers\(^\text{18}\)

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>15</td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/African-American</td>
<td>3</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30s</td>
<td>5</td>
</tr>
<tr>
<td>40s</td>
<td>8</td>
</tr>
<tr>
<td>50s</td>
<td>4</td>
</tr>
<tr>
<td>60s</td>
<td>5</td>
</tr>
<tr>
<td>70s</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Status:(^\text{19})</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Student</td>
<td>3</td>
</tr>
<tr>
<td>Lecturer or Non-Tenure Track Instructor</td>
<td>3</td>
</tr>
<tr>
<td>Tenure-Track or Tenured Faculty Member</td>
<td>17</td>
</tr>
<tr>
<td>Tenured faculty member who recently assumed emeritus status*</td>
<td>1</td>
</tr>
<tr>
<td>Director of First-Year Writing*</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>16</td>
</tr>
<tr>
<td>Northeast</td>
<td>1</td>
</tr>
<tr>
<td>Southeast</td>
<td>1</td>
</tr>
<tr>
<td>Southwest</td>
<td>2</td>
</tr>
<tr>
<td>Mid South*</td>
<td>2</td>
</tr>
<tr>
<td>South*</td>
<td>1</td>
</tr>
</tbody>
</table>

The added dimensions of regional diversity and professional status allow me to address the role these factors play in connecting participants to digital literacy resources. The

\(^{18}\) Asterisks (*) in Table 7 indicate answers participants supplied in response to an “Other—please specify” option.

\(^{19}\) Even though there are only 23 SL participants, 25 positions are listed in the “Professional Status” category of Table 7 because some participants identified themselves as falling under more than one professional status, e.g. “ABD Graduate Student AND Lecturer or Non-Tenure Track Instructor” or “Lecturer or Non-Tenure Track Instructor AND Director of First-Year Writing.”
scope of the exhibit composing task and the length of time contributors spent working on it allowed more time for resources to circulate among members. Although members of the classroom composing groups assumed specific task responsibilities, the roles SL contributors assumed were related to their existing areas of expertise, suggesting how transferring accumulated literacy resources across spheres affects groups’ digital composing processes.

The collection exhibits’ self-sponsored nature also provides an opportunity for investigating how individuals transfer resources across spheres to support a task. In the classroom sites, instructors and classmates could provide immediate access to digital literacy resources, and instructors often played a vital role in directing students to university-provided resources. SL contributors, on the other hand, were responsible for accessing resources located in their literacy ecologies, including their university employers, social and professional networks, families, corporations, and online help forums. As a result, the resources SL participants sought out connected their composing tasks to more, and more varied, spheres than the classroom-based composing tasks did. Collection contributors also linked these spheres together differently than students did, since many participants’ paths of resource access drew on long-standing social and professional relationships. SL contributors’ geographic locations also provided a valuable contrast to the classroom-based sites: while student groups worked together face-to-face, many SL coauthors lived in different cities, even different states, and relied extensively on digital composing spaces to create their exhibits. Locating significant amounts of digital composing work in virtual workspaces points to the significant role both physical and virtual spaces for group composing played across all three sites, illustrating its
importance as a material digital literacy resource that significantly affects groups’
processes of digital composing.

*Study Design, Methods, Data Analysis, and Chapter Overview*

The three sites that make up this study include undergraduates, graduate students, faculty members, and adults not affiliated with the university. Including traditionally and non-traditionally aged college students, graduate students, and faculty members captures a broad spectrum of school, peer, family, public, and professional ecological spheres that provide access to a wide variety of material and intellectual digital literacy resources. The tasks that characterize the three sites also allow me to consider different types of digital composing: writing alphabetic texts in digital environments; constructing digital texts using a familiar application (PowerPoint) in new, multimodal ways; and creating multimodal, scholarly, ADA-accessible html and Prezi “exhibits” that included extensive media production work.

I chose these three research sites because their spectrum of tasks captures the kinds of digital composing already found in many writing courses (the laptop section’s digital writing components), the multimodal production some writing instructors are already introducing (the community literacy course’s audio/video literacy narrative collection and multimodal final project), and the full-on web design found in upper-level and special-topics digital composing courses (the SL collection exhibits). And although the digital composing tasks that characterize the SL site, and even the laptop section and community literacy course sites, are far from ubiquitous on college campuses (as I discuss in Chapter 2), they suggest where composition instruction is headed as part of the increasingly digital, networked, multimodal mediascape of twenty-first century literacy.
Yancey described in her 2004 keynote address at the Conference on College Composition and Communication. The focus this study places on resource access and circulation is designed to highlight the issues and challenges that arise when digital composing becomes mainstream enough that non-enthusiasts (as well as enthusiasts) encounter it in academic contexts. Locating these studies within college writing instruction and academic publishing also shows the extent to which pedagogical concerns and beliefs about support for print-based writing, group work, and writing environments also apply to digital composing tasks. The overlap this study identifies between composition’s longstanding investment in the writing process and newer concerns about access and privacy begins to address some of the issues the field will need to deal with as digital technologies play an increasingly central role in composing in any mode.

I recruited study participants using in-person invitations (for the classroom-based sites) and email invitations (for the SL site), and everyone who volunteered for the study became a participant. I administered questionnaires to collect demographic information and to ask standard questions about how, when, and where participants worked on their group’s composing task. Based on their questionnaire responses, I conducted follow-up interviews using a standard set of questions for each site, which I tailored to pursue individual participants’ responses. All interviews were audio- or video-recorded. For the laptop section and community literacy course sites, I also sat in on

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20 I also interviewed the laptop section and community literacy course teachers, State University’s Director of First Year Writing, the SL collection editors, and the SL collection designer. I used these interviews primarily to gather background information about the research sites. My research on group digital composing processes is based on data collected from students in the two classes and contributors to the edited collection.
classes as a participant observer, taking notes and occasional photographs and offering my help to students upon request as a gesture of reciprocity.

I used a grounded theory approach to analyze the data I collected, coding it to look for emergent themes in participants’ approaches to their composing tasks. Although I had originally designed the study to focus on individuals’ methods of accessing digital literacy resources to support their composing tasks, coding interview and observational data suggested two additional themes. These themes grew out of participants’ descriptions of how the literacy resources they gathered were used during the projects and my observations in the classroom sites of how students went about working together:

- In interviews, group members emphasized the extent to which the group’s organization and the way the group structured their task shaped which literacy resources individuals sought out and how they applied them to the digital composing task.
- My classroom observations and individuals’ interview comments identified physical and virtual space as a significant factor that shaped how the group worked together, structured their task, and applied the digital literacy resources members gathered.

As a result, I added these themes to the study, expanding the study beyond its original focus on resource access to address how digital literacy resources were used in the group tasks participants worked on.

Chapter 2 looks at how focal individuals from the study’s three research sites sought out digital literacy resources in various family, peer, school, and public spheres to support their composing tasks. The chapter begins by considering the literacy ecologies in which student and faculty digital composers were located, drawing on research on the university- and student-provided digital literacy resources on college campuses. I then review existing research on digital literacy development through accumulation (focusing on development over time) and contrast it to my task-based study. Building on Cynthia L.
Selfe and Gail E. Hawisher’s work on conditions of access to technology, I propose “foraging” as a metaphor for approaching digital literacy tasks. I describe how focal individuals from the three case studies foraged for digital literacy resources in family, peer, school, and public spheres. I look at the resources focal individuals had access to and the success of their foraging in light of the kinds of resources they sought out, the social and institutional connections that facilitated their foraging, and the media through which they foraged. Finally, I outline a pedagogy of foraging that approaches digital composing tasks as a recursive process of seeking out material and intellectual resources.

Chapter 3 uses scholarship on cooperative and collaborative approaches to group composing to analyze focal groups’ approaches to their digital composing tasks. Group members took on individual responsibilities, but the groups also came together at various points during their composing tasks to work collaboratively, demonstrating the complementary relationship between these two approaches to group composing. I use techne-mentorship to describe how digital literacy learning occurred within groups when digital literacy resources circulated among members during collaborative task phases. However, groups’ tendency to assign leadership and digital production responsibilities to individual group members according to pre-existing experience in other spheres questions the potential that group digital composing tasks have to serve as learning opportunities. The chapter conclusion recommends metacognitive exercises that encourage group members to assume individual responsibilities that will encourage them to engage in new digital composing activities and draw on the literacy resources contributed by other group members.
Chapter 4 looks at groups’ physical and virtual workspaces to examine how material and symbolic dimensions of space affected groups’ work on their composing tasks. I analyze the ways groups in the laptop section and community literacy course inhabited classroom space to draw connections between classroom design and students’ expectations for the use of classroom space. I also examine how student groups’ production of classroom space is shaped by their classrooms’ symbolic location relative to the university/community and the nature of their digital composing tasks. Shifting to the digital composing work groups from the community literacy course and SL collection did in non-classroom spaces, I turn to research on distributed work to examine how academic composing groups sought out and inhabited physical and virtual workspaces located in professional, school, and corporate spheres. Revisiting many of the access issues raised in Chapter 2, I question whether distributed work approaches offer sufficient support for digital composing outside the classroom, especially in light of privacy concerns about collaborating in corporate Web 2.0 environments. The pedagogical recommendations I offer in this chapter focus on the relationship between groups’ physical arrangement during collaborative task phases, using individual and group reflective exercises to guide groups toward developing methods of inhabiting physical (and possibly virtual) spaces that encourage all members to participate in the task and access the literacy resources gathered around it.

The conclusion, Chapter 5, returns to the resource-based view of literacy development introduced in this introductory chapter, looking not only at how resources circulate between spheres in support of the groups’ composing tasks, but also at how group members’ use of these resources can change them. I also draw together the
pedagogical recommendations I made about literacy resource foraging, division of task responsibilities and task structuring, and development of group working methods to suggest an approach to classroom digital composing assignments that begins to develop process-oriented approaches to mainstream digital composing. At a time when digital composing is making gradual, uneven inroads into college composition instruction, the flexible, ecologically-sensitive, and reflective digital composing processes I recommend offer teachers ways to work with the material and intellectual resources provided by institutions and students. This approach is designed to adapt to different institutional climates and student populations, and to encourage students to be thoughtful, deliberate, and reflective composers in any medium.
Chapter 2: “I searched high and low”: Supporting Digital Composing Tasks through Resource Foraging

Opening Anecdote:

Last year I started asking students in my digital composing classes to write a “post-production narrative” after completing each major assignment. The prompt asked students to describe how they went about doing the assignment and what they would do the same/differently next time.

I hope my students learned as much from writing their narratives as I did from reading them. Some students described using their iPhones to capture still images, audio, and video. Some borrowed high-end cameras from campus IT services. Some staked out library computers to use the Photoshop software installed on them. Several “occupied” the library’s Mac lab together so that they could ask each other questions while working in iMovie. One student ran drafts of his video project by his partner, who worked as a freelance wedding videographer. Some relied on roommates studying audio engineering or who played in local bands to help trouble-shoot technical difficulties in Audacity and GarageBand. Some watched software tutorial videos on YouTube. Some emailed me to ask for help and feedback.

The variety of sources from which students described gathering material and intellectual digital literacy resources caught my attention. I was especially struck by students’ “all available means” attitude, the way they applied tools and expertise from their everyday relationships and environments to their course projects. My students’ narratives left me with questions about how individuals access resources for specific digital composing tasks, especially how they deal with technical questions or problems that exceed their own expertise. What is the relationship between individuals’ existing resources and the new ones they gather around specific tasks? How does this kind of ad-hoc resource gathering work, and what conditions of access does it depend on? What would a pedagogy designed to scaffold such a situated, tactical approach to accessing resources look like, and what might its benefits be?

My students’ descriptions of gathering material and intellectual literacy resources to support classroom-based digital composing projects begins to sketch out one way to understand how individuals access digital literacy resources. As I argue in Chapter 1, digital composing draws attention to both the material resources (physical and virtual tools like computers, cameras, software, and workspaces) and the intellectual resources...
(technical proficiency operating these tools and rhetorical knowledge of how to use them skillfully for specific purposes) that go into creating texts. Access is a particular concern for digital composing because of the structural “techno-poverty” Grabill describes, which distributes material and intellectual digital literacy resources unevenly across literacy ecology spheres. The way my former students and the participants in this study gathered resources from a variety of locations offers one way to respond to this disparate, uneven distribution of resources. This chapter investigates how participants accessed material and intellectual resources they needed for their groups’ digital composing tasks. Their access methods illustrate how digital composers draw on ecologically-available resources to create digital texts.

I propose “foraging” as a metaphor for how individuals gather digital literacy resources from across the spheres that make up their literacy ecologies in order to support their composing tasks. As I argue below, foraging for literacy resources means being on the lookout for resources accessible through people, institutions, spaces, and texts, and tapping into them when a composing task demands it. In the case studies I present in this chapter, foraging is prompted by a specific need related to a composing task, but it taps into resources which are already present in the sphere (subsystem) of the forager’s literacy ecology. I identify several criteria—proximity, expertise, and information about available resources—that affect individuals’ foraging methods and success. Using foraging to approach digital composing tasks draws attention to the uneven distribution of literacy resources while also recommending tactics for accessing digital literacy resources.

This chapter focuses on the foraging practices of focal individuals from the three sites included in this study, the community literacy course (Melissa), the laptop section
(Emily), and the *Stories about Literacy (SL)* edited collection (Claire), rather than examining whole composing groups like Chapters 3 and 4 do. Drawing comparisons across the three sites, my discussion of individual group members illustrates how differently-located individuals foraged for digital literacy resources to support their group’s composing task. As suggested by the brief descriptions I give of Melissa, Emily, and Claire below in Table 8, they differ in terms of age, educational/professional background, geographic location, and composing task. These participants created particular and, at times, contingent connections across spheres to forage for the digital literacy resources they needed. Their methods of foraging for resources and the resources themselves begin to lay the groundwork for the following chapters, which examine the relationship between access to literacy resources, groups’ digital composing processes, and opportunities for digital literacy learning.

**Table 8: Focal Participants Featured in Chapter 2, Listed in Order of Appearance**

<table>
<thead>
<tr>
<th>Focal Participants</th>
<th>White, female, nontraditionally-aged undergraduate student in a community literacy course taught at a large, public, research-intensive university in the Midwest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melissa</strong></td>
<td>White, female, traditionally-aged freshman in a laptop section taught at a large, public, research-intensive university in the Midwest</td>
</tr>
<tr>
<td><strong>Emily</strong></td>
<td>White, female associate professor at a mid-sized, private arts and media college in the Midwest</td>
</tr>
</tbody>
</table>

21 University sizes and labels (such as “research-intensive”, public, et cetera) in Table 8 are based on Carnegie Classifications. See “Classification Description” for glossary of terms.
Accessing Digital Literacy Resources: From Accumulation through Technology Gateways to Foraging in Literacy Ecologies

As my former students’ post-process narratives indicated, the wide variety of sources from which they drew digital literacy resources included school, friends, significant others, and the Internet. In effect, the different resources different students gathered to support their digital composing work created very different working conditions. To illustrate the benefits of a foraging approach in the context of such varied working conditions, in this section I

- briefly summarize research on the availability of digital literacy resources on college campuses to illustrate foraging conditions,
- review existing work on digital literacy access and development to show how foraging relates to and extends existing research, and
- introduce the scientific literature on foraging that informs my metaphorical use of the term.

Types, Location, and Availabilities of Digital Literacy Resources on College Campuses

Research on access to digital technology on college campuses focuses on students’ ownership/use of technology and on institutionally-provided technology resources and support. The student side of this research focuses on the material resources students bring to campus with them (computers, smart phones, et cetera) and the intellectual resources they have accumulated (the software they use and the kinds of digital texts they create). Research on institutional technology provision looks at the material resources (computers, multimedia equipment) and intellectual resources (IT support, support for teaching with technology) colleges and universities make available to students and teachers. Bringing together these perspectives illustrates the kinds of resource gaps students may need to fill in as they work on digital composing tasks, setting the stage for the foraging done by Chapter 2 focal participants.
Research on the material digital resources students bring to campus presents clear access disparities. Reports over the past decade by the EDUCAUSE Center for Applied Research (ECAR)\textsuperscript{22} show increasing rates of student ownership of both computers and devices like smart phones which include media capture functions (see Figure 2 below). However, ownership of such devices is not universal. This is especially true because, as the 2010 ECAR study demonstrated, some students own more than one desktop or portable computer (Smith and Caruso 43). This means that students who own multiple devices are double-counted in the statistics on computer ownership, obscuring students who do not own a computer at all. This latter group would likely depend on the university for material resources to support digital composing work. And as Emily, one of this chapter’s focal individuals, discovered when her laptop’s hard drive crashed, student-owned material resources can also prove unreliable, prompting even students who own their own computers to rely on university-provided ones.

\textsuperscript{22} In its mission statement, EDUCAUSE defines itself as “a nonprofit association whose mission is to advance higher education through the use of information technology.” Since 2004, EDUCAUSE’s Center for Applied Research (ECAR) has conducted an annual Study of Students and Information Technology which provides national data on student technology use. For more information on the scope, methods, and institutions included in the ECAR studies, see Appendix H: Background Information on EDUCAUSE’s Annual ECAR Study of Students and Information Technology, 2004-2012.
Furthermore, Porter cautions that infrastructural access (access to material resources) is not the only significant access consideration. He also identifies technological literacy skills (the ability to operate material digital resources) and community/social acceptance (the extent to which people are made to feel (un)welcome using a technology) as important dimensions of access (102-105). Assessing access to the kinds of intellectual digital literacy resources Porter describes is more difficult than measuring ownership of material resources. As a result, intellectual literacy resource access is documented less

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23 The ECAR questionnaire defines “Internet-Capable Handheld Device” as a handheld device that is capable of accessing the Internet (whether or not you use that capability). This definition includes smartphones and PDAs (personal digital assistants), but not tablet computers. The survey listed the iPhone, Treo, BlackBerry, other Internet-capable cell phone, iPod touch, PDA, and Pocket PC as examples of Internet-capable handheld devices.

24 These statistics come from the 2004-2012 ECAR reports: see Kvavik, Caruso, and Morgan; Caruso and Kvavik; Salaway, Katz, and Caruso; Salaway and Caruso 2007; Salaway and Caruso 2008; Smith, Salaway, and Caruso; Smith and Caruso; Dahlstrom, de Boor, Grunwald, and Vockley; and Dahlstrom.
frequently and more indirectly with research on software use and familiarity. ECAR statistics from 2008 to 2010 (see Figure 3 below) suggest widespread, although not ubiquitous, student use of presentation, spreadsheet, and graphics software. While the majority of students downloaded online audio and video content, fewer than half created audio or video content, posted audio or video content online, or posted on blogs. These statistics indicate that between seventy and ninety percent of students are composing alphabetic/numeric digital texts and consuming multimodal digital content, yet only thirty to forty percent of them are creating multimodal digital content. ECAR data on student use of technology suggests that many students lack experience composing multimodal digital texts like those produced in the community literacy course and edited collection sites and may need additional, university-provided intellectual resources to perform these kinds of tasks.

25 The 2008-2010 ECAR studies did not ask, apparently, about student use of word processing software, possibly because the study's authors assumed that all or nearly all students used word processing software.
The statistics ECAR reports on students’ assessment of their software proficiency (see Figure 4 below) describe Porter’s “literacy skills” dimension of access. Although the majority of students reported using presentation, spreadsheet, and graphics software, they

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26 These statistics come from the following ECAR reports: Salaway and Caruso 2008; Smith, Salaway, and Caruso; and Smith and Caruso. Not every program was tracked every year, so some columns are missing.
rated their proficiency only in the “good” range. Students on average did not see themselves as skilled users of these technologies. And, although the change is slight, students’ estimation of their skills actually decreased from 2007 to 2010. Students’ self-assessment of skills suggests that they may need additional intellectual literacy resources to support their use even of familiar programs, in addition to the programs and online applications they reported using rarely, such as audio and video production software.

ECAR statistics on students’ device ownership, technology use, and perceived technology skill suggest that while some students have access to considerable material and intellectual digital literacy resources, not all of them do. Furthermore, ECAR’s self-assessment figures only count those students who used the specified programs. Students who did not report using word-processing, spreadsheet, presentation, graphics, and other software were not counted in the self-assessment statistics, suggesting that a larger percentage of the overall student population may need additional support for both alphabetic and multimodal digital composing tasks.
Shifting focus from personal to institutional access to material and intellectual digital literacy resources, colleges and universities also vary widely in terms of the resources they offer students. In their introduction to the 2013 *Computers and Composition* special issue “Writing on the Frontlines,” guest editors Lanette Cadle and Elizabeth A. Monske contrast teaching at technology-rich research-intensive universities with the need “to work with existing technology and ‘make things work’” at smaller

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27 These statistics come from the following ECAR reports: Salaway and Caruso 2007; Salaway and Caruso 2008; Smith, Salaway, and Caruso; and Smith and Caruso. Not every program was tracked every year, so some columns are missing.
Institutions with fewer resources (1). In the same issue, Erin Karper adds that while the limited material resources Candle and Monske identify pose one difficulty, campus \textit{attitudes} toward digital composing pedagogies further complicate access. When campus culture is hostile to digital composing, Karper cautions, existing material resources (like computer labs) and intellectual resources (like design consultation and support) are not accessible to students.\footnote{Karper’s description of a turf war with the computer science department illustrates the difference between availability and access and points to inaccessibility’s pedagogical implications. Because the computer science program at her institution believed it “owned” the campus’s few computer labs, Karper was rarely able to teach in them and felt she could not assign projects that asked students to use lab software, since her students could not use the campus computer labs outside class times (17). Members of the computer science department also held administrator privileges on the lab’s computers, preventing Karper from installing software relevant to multimodal digital composing (17).} Furthermore, even without the kind of hostility toward digital composing Karper describes, finding digital literacy resources on college campuses can be difficult. EDUCAUSE’s 2011 Highlights and Insights into Higher Education Information Technology report (see Table 9 below) shows how spread out university-provided material and intellectual digital literacy resources can be. The Highlights report identifies libraries, academic departments, and administrative offices as potential resource-providers (Grajek and Arroway 45), questioning how easy university-provided resources are to find, even when they are available.
The varied personal and institutional literacy ecologies depicted in these studies suggest the need for a pedagogy that helps student think tactically about what resources are accessible to them, while remaining aware of existing resource gaps. This brief overview of campus technology ecologies focuses on the material and intellectual resources currently available to students, which are primary considerations when the unit of analysis is a task and the focus is on helping students approach it. In the next section, I turn to research on digital literacy development as influenced by access to resources.

*Research on Digital Literacy Access and Development over Time*

In their work on individuals’ digital literacy development between the mid-1970s and the early twenty-first century, Cynthia L. Selfe and Gail E. Hawisher identify technology gateways as the “places and situations through which individuals typically gain access to computers for the purpose of practicing digital literacy” in the complex cultural ecology that constitutes contemporary life (84). They identify schools, workplaces, communities, and homes as the types of gateways through which individuals

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29 These statistics come from Grajek and Arroway’s 2011 Highlights and Insights into Higher Education Information Technology report, page 15.
develop digital literacies and focus on how factors like fit, motivation, resources, and availability affect individuals’ conditions of access to technology in these gateways:

specific conditions of access can affect at what times and in what ways people acquire and develop robust sets of digital literacy skills—or, indeed, if they choose to do so. Among the more significant conditions of access […] were the fit or match between their needs and the capabilities of the available computer hardware and software; the motivation or personal stake they had in learning to communicate in online environments; the resources, financial and otherwise, that they had available to devote to computers; the immediacy and convenience of computer access; the availability of technical support in a form that fit their particular learning style; and the safety, security, and general ambience of the computing environment they had available for use. (105, emphasis added)

Selfe and Hawisher argue that these conditions of access shape individuals’ experience of the digital literacy resources they encounter in technology gateways and, consequently, affect the digital literacies individuals develop as they pass through them. Within this restrictive framework, however, Selfe and Hawisher argue for a duality of structure that distinguishes determinism on the local/micro and global/macro levels (32). They show how individuals can exercise agency through their responses to the literacy opportunities found in the technology gateways they encounter. However, like Cooper, Selfe and Hawisher caution that individuals’ access to technology gateways is shaped primarily by macro-level structural factors like historical time period, race, class, gender, and language.

For example, with their Transnational Literate Lives in Digital Times coauthors Patrick W. Berry, Oladipupo "Dipo" Lashore, and Pengfei Song, Selfe and Hawisher argue that Dipo’s and Pengfei’s digital literacy values and practices (the applications they used to communicate within computer environments; the ways in which they shaped their access to digital communication environments at school, at home, or in Internet cafes; their decisions to play computer games or work with digital photography) occurred at a micro-political level (i.e., within a family, a peer group, or the life of an individual). […] we do not want to suggest with this discussion that people can always accomplish
anything they want within social structures or that the actions they take are always effective. Clearly, people are constrained in their actions by any number of influential factors: age, class, race, handicap, experience, opportunity, and belief systems are only a few such factors. And, as we noted, certain of these factors—geographical location, wealth, and education, for instance—may exert particularly strong shaping influences on people’s opportunities to develop digital literacy.

The agency Selfe et al argue for in this passage comes from Lashore’s and Song’s micro-level interactions with the people and material resources that populate their technology gateways while engaging in specific digital literacy activities.

The small scale and tactical (“jerry-rigged”) nature of John Scenters-Zapico’s micro-literacy zones also reflects the kind of Selfe and Hawisher’s argument for local agency within global constraints, applying it at a micro, material scale:

Micro-literacy zones are the hidden cracks and crevices that participants often find themselves in as they perform the idiosyncratic acts of learning and practicing literacy. While generally in the home, these range from sitting in a quiet closet to read, using a computer tucked into a personal and private space at home, sitting alone with a laptop computer at a Starbucks […]. Micro-literacy zones offer the larger institutionalized technology gateways stability and innovation; as well, they serve to undermine them. Micro-literacy zones are specialized places that have helped me to see and understand how and where many people jerryrig [sic] invisible places of growth and learning that affect their internal and external lives over their lifetimes. (24-25)

Although micro-literacy zones depend on access to privately-owned material digital literacy resources, as Scenters-Zapico explains, these small spaces provide immediate, convenient, and comfortable environments for digital literacy learning and development.

The micro-literacy zones he documents show individuals using resources provided in the home, often by family members, to take advantage of what resources they do have access to even when their technology gateways provide only limited resources (76, 111-112). Scenters-Zapico emphasizes how individuals make these resource-rich spaces their own
by adding new devices and software and inhabiting them regularly as personalized literacy environments. Although macro-level economic and cultural factors shape the material digital literacy resources available in individuals’ micro-literacy zones, how they use these zones becomes a way for individuals to pursue specific digital literacy activities ranging from graphic design to completing college coursework to playing games.

I introduce foraging as a way to describe the kind of micro-level pursuit of digital literacy resources Selfe et al and Scenters-Zapico describe. While Selfe and Hawisher and Scenters-Zapico use a retrospective literacy narrative methodology that relies on life-history and oral-history methods (see Selfe and Hawisher 6), my task-based approach looks at digital literacy development in the moment of its happening using field observations, questionnaires, and interviews. Literacy narrative methods focus on how literacy accumulates over time (to borrow Brandt’s terminology), “piling up” over the course of an individual’s lifetime (“Accumulating” 652). Examining how individuals approach tasks in real time, however, sheds light on the experiences that result in accumulation. Focal individuals’ foraging methods guide me toward pedagogical recommendations designed to help students gather accessible digital literacy resources as they work on specific composing tasks. My focus on instances and methods of foraging captures the kind of data Bump Halbritter and Julie Lindquist call for in qualitative literacy research that accounts for “the complex web of relationships that foster or discourage” literacy development (173).

Foraging: How Digital Literacy Accumulation Happens in the Moment

To study digital literacy accumulation as it happens and suggest ways individuals can access the digital literacy resources they need in the complex literacy ecologies within
which they are located, I propose the metaphor of “foraging” as developed by optimal foraging theory.\textsuperscript{30} Drawing on Michel de Certeau’s distinction between tactics and strategies, I put foraging forward as a way individuals can act deliberately to support their digital composing work within the literacy ecologies, even while their access to those resources is constrained by structural factors they cannot fully comprehend due to the ecology’s complexity (ala Cooper).\textsuperscript{31} Conceptually, tactical foraging complements the overall ecological approach this study uses. It was initially developed by biologists Robert H. MacArthur and Eric R. Pianka and J. Merritt Emlen in the 1960s to model how animals seek out food, using economic concepts like rational choice and scarcity to describe animal behavior in natural ecologies containing finite resources. Drawing on a theory used to model animal behavior that focuses on environmental and physiological determinism nods to the structural elements of ecology Selfe and Hawisher; Hawk; Cooper; and others insist on, which prevent humans from acting with complete freedom or perfect knowledge.

The basic tenets of foraging theory include “1) an objective function or goal (e.g., energy

\textsuperscript{30} Optimal foraging theory has also been used to describe how Internet users seek information online (see Pirolli) and how scholars conduct research in- and outside their areas of specialization (see Sandstrom 1994 and 1999).  

\textsuperscript{31} de Certeau contrasts strategies and tactics in terms of location and stability. Strategies require a stable location from which an actor can view society, make judgments, and implement deliberate actions (35-36). But incomplete knowledge and the constraints of existing structures make it hard for individuals to strategically pursue digital literacy resources. Tactics, on the other hand, are still “calculated actions,” but tactical actors lack a stable, external vantage point from which to observe, plot, and act (37). Instead, de Certeau’s tactical actor “operates in isolated actions, blow by blow, it takes advantage of ‘opportunities’ [...] This nowhere gives a tactic mobility, to be sure, but a mobility that must accept the chance offerings of the moment, and seize on the wind the possibilities that offer themselves at any moment” (37). As Lemke argues, individuals cannot think or act outside of the ecology in which they are located, because their physical and semiotic actions affect that ecology. That is, there is no way to gain an outside perspective on the literacy ecology that does not change the literacy ecology. Furthermore, as complex adaptive systems, literacy ecologies are constantly changing, obstructing the judgment and deliberation that characterize strategic action. The approaches to foraging I outline in this section and in the case studies that follow suggest “tactics” individuals can use to access digital literacy resources in the different ecological spheres to which they are connected, making use of available digital literacy resources (“opportunities” in de Certeau’s terms).
maximization or starvation minimization), 2) a set of choice variables or options under the control of the organism, and 3) constraints on the set of choices available to the organism” (Ydenberg, Brown, and Stephens 4). Two of foraging theory’s central concepts—diet-breadth and patches—provide a useful framework for investigating how individuals access digital literacy resources in literacy ecologies.

The diet-breadth model\(^{32}\) lends itself to the distributed, diverse literacy ecologies in which study participants were located, made up of diverse spheres and containing varied digital literacy resources. Diet-breadth describes how foragers choose between different resources, prioritizing nutrient-rich foods over nutrient-poor ones to decide which resources to pursue and in what order:

When a forager encounters a resource, he or she must decide either to harvest that resource, or to bypass it and search for something better. […] The diet-breadth model approximates the decision making-process that a forager makes based on the assumption that the goal of foraging is to maximize the overall energy-return rate. The model also assumes that time spent pursuing (harvesting) precludes searching for other resources so that there is an opportunity cost to each resource as well. (Kelly 83, emphasis in original)

Applied to digital literacy resource foraging, the idea of diet-breadth accounts for how digital composers use criteria like proximity, expertise, and information (explained below) to decide how to approach their tasks. Opportunity cost is also a consideration, since the time a digital composer spends foraging for a resource is time lost against the task deadline. Diet-breadth concerns play out in an ecology containing varied resources, but

\(^{32}\) In their authoritative and widely-cited synthesis of optimal foraging theory, David W. Stephens and John R. Krebs call the diet-breadth model the “prey model.” Diet-breadth is the term used more commonly in foraging literature, however, and it better captures my use of foraging theory, so I use the diet-breadth terminology instead of the prey terminology.
one in which the value or appeal of a resource varies according to the other resources present and the needs of the forager.

Foraging theory’s other central concept looks at the relationship between foraging practices and “patches” or resource clusters (subsystems) that make up an ecology. This approach to studying foraging examines which patches animals choose to forage in, how easily they find resources in a patch, and when/how they decide to move to a new patch:

when a forager first enters a patch, the net resource-harvest rate is high. But as the resources are gathered, the encounter and net harvest rates decrease; eventually the forager reaches a point of diminishing returns […] Moving to another patch returns the forager to a higher rate of resource harvest. (Kelly 90-91)

The patch model presumes that resources are not evenly distributed throughout an ecology and that foragers must travel between patches to gather the resources they need. While animal foraging models do not problematize access to resources within a patch beyond physical obstacles (which I address by drawing on existing research on digital literacy development and social tie theory, described below), moving between patches to seek out valuable resources mirrors the “all available means” approach taken by study participants, who gathered resources across multiple spheres. The patch model also draws attention to resource depletion during the foraging process. Some material digital literacy resources, like computers and recording devices, can be exhausted as classic foraging theory describes. Only one person can use the device at a time. Other resources, like downloadable software and design expertise, are exhausted not when they disappear, but when they no longer respond to the demands of the digital composing task. Ronald C. Ydenberg and David W. Stephens also problematize optimal foraging theory’s “complete information” assumption (14), raising Cooper’s question of how completely individuals
understand the ecological systems in which they are located. Like animal foragers, digital composers forage deliberately, but they often lack complete information about the patches they forage in. The incomplete information study participants used to forage sometimes created difficulties, as Claire’s case below demonstrates.

Using foraging’s emphasis on goal-oriented behavior within contextual constraints, I offer foraging as a metaphor to describe how individuals gather literacy resources from ecological spheres to meet the demands of a composing task. To focus in the case studies on how foraging works, I use “sphere” to categorize types of foraging environments (similar to Selfe and Hawisher’s technology gateways) and “patch” to refer to specific environments in which the focal individuals actually foraged (the actual environments in which they gathered resources). Table 10 shows how I define these spheres and the kinds of patches through which focal participants experienced them:

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33 The spheres I identify as foraging environments parallel Selfe and Hawisher’s typology of home, school, work, and community technology gateways and Farr’s family/home, religion, commerce, the state/law, education literacy domains. All of our approaches identify areas of life in which (digital) literacy plays a role in order to understand how individuals use and especially acquire literacy through these formal and informal learning opportunities. The distinction I draw between spheres and patches separates conceptual spheres—*the* family, *the* school, *the* public—from individuals’ actual experience in real-time manifestations of these spheres. I make this conceptual/experiential distinction to deal with the blurring between spheres that inevitably occurs when the same people and institutions fall into multiple spheres because of the dense and multiple links that connect individuals within literacy ecologies. Claire’s case in in this chapter, for example, highlights the extent to which multiple connections between individuals blur the boundaries between peer and professional spheres.
Table 10: Defining Spheres and Patches for Digital Literacy Resource Foraging

<table>
<thead>
<tr>
<th>Sphere</th>
<th>Sphere Definition</th>
<th>Foraging Example for a Patch within This Sphere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>Places, relationships, and activities that connect individuals to members of their immediate and extended families.</td>
<td>Emily asking her mother questions about what features she should look for in a laptop</td>
</tr>
<tr>
<td>Peer</td>
<td>Places, relationships, and activities that connect individuals to friends and acquaintances on the basis of shared interests and/or personal compatibility</td>
<td>Claire and Diane asking their friend/colleague Patrick for advice on the design of their exhibit</td>
</tr>
<tr>
<td>School</td>
<td>Places, relationships, and activities that connect individuals to formal educational institutions</td>
<td>Melissa asking her instructor for help embedding media in a presentation slide</td>
</tr>
<tr>
<td>Professional</td>
<td>Places, relationships, and activities that connect colleagues on the basis of shared work or work interests</td>
<td>Claire asking her colleague Nicole a technical question about WordPress</td>
</tr>
<tr>
<td>Public</td>
<td>Places, relationships, and activities that connect members of the general public, not defined by specific interests, experiences, or goals</td>
<td>Melissa searching on YouTube for a video tutorial demonstrating how to install QuickTime Pro</td>
</tr>
<tr>
<td>Corporate</td>
<td>Places, relationships, and activities related to being a consumer of a product, especially one made by a for-profit company.</td>
<td>Jim and Andy outsourcing design work to Prezi rather than building a web application for their exhibit from scratch</td>
</tr>
</tbody>
</table>

These spheres exist in both physical and virtual space. Many peer, school, professional, and corporate organizations provide information for and facilitate communication between members online. And even spheres which are constituted primarily through physical proximity (like the family) often use online as well as face-to-face communication. These spheres can also overlap with one another, as Claire and Diane’s peer/professional example in Table 10 above illustrates. Resource providers can be both friends and

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34 The corporate sphere does not come up in this chapter, but it features prominently in Chapter 4’s discussion of web 2.0 spaces for collaborative digital composing. The patch-based foraging example listed here comes from Chapter 3.
classmates (peer/school), both friends and colleagues (peer/professional), both educators
and employers (school/professional), complicating the sphere categories I outline here.

Although these categories are not perfect (indeed, as Lemke argues, such labels
can never pin down the phenomena they try to describe) I use them to provide a
framework for explaining how focal individuals foraged, which forms the basis for the
foraging-based pedagogy I propose in the chapter conclusion. The attention foraging
draws to resource variety and choice, patch access and selection, and patch knowledge
resonates with focal participants’ experience of accessing digital literacy resources. The
context-sensitive, goal-oriented nature of foraging helps individuals negotiate the “just-in-
time” demands of digital literacy development,35 using criteria like proximity, expertise,
and patch knowledge to decide where and how to forage.

Existing research on digital literacy performance and development contains
glimpses of how individuals forage for digital literacy resources. Because of the brief and
incidental nature of their depiction, however, these anecdotes are suggestive and call for
further study rather than thoroughly illustrating how individuals forage for digital literacy
resources around composing tasks as I do in this chapter.36 Furthermore, most snapshots
of individuals foraging for digital literacy resources come from studies of youth digital

35 In What Videogames Have to Teach Us about Learning and Literacy, Gee argues that one of the effective
learning techniques video games use is to provide players with information and skills right when they need
them in the situation where they will be used, rather than in a decontextualized, generic orientation at the
beginning of the game or level. The just in time and in-advance learning techniques Gee describes are part
of the larger contrast he draws between the kind of learning that goes on in video game play versus formal
schooling.

36 See Appendix G: Anecdotal Representations of Foraging in the Literature on Youth Digital Literacy
Development in Affinity Communities for examples.
literacy practices in what James Paul Gee calls affinity spaces, meeting spaces where groups of enthusiasts congregate to talk about and create content around popular culture interests like fan fiction and -art, video game play and modification, vernacular video creation, and other forms of (digital) participatory culture (Situated 84). As a result, as Gillam and Wooden have argued, although these self-sponsored digital composing activities have some pedagogical implications, they cannot be transplanted directly into classrooms. In the case studies that follow, I examine how three focal individuals—Melissa, Emily, and Claire—foraged for digital literacy resources to support their composing tasks. They sought out material and intellectual resources located in family, peer, school, professional, and public spheres based on expertise, proximity, and information. Their foraging techniques highlight the roles that personal connections, professional relationships, institutional affiliation, and awareness of publicly-available resources play in foraging, drawing attention to the macro-level structures which shape micro-level acts of foraging.

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37 Although research on affinity spaces concentrates overwhelmingly on online affinity spaces like the ones where the video game enthusiasts Gee originally studied congregate, Elizabeth M. King reminds researchers that affinity spaces can exist both virtually online and face-to-face in physical spaces. 38 Henry Jenkins et al argue that twenty-first century young people develop digital literacy primarily through participating in the interactive popular culture facilitated by digital communication technologies. He defines participatory culture created through digital communication technology as “a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one’s creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another (at least they care what other people think about what they have created). [...] Interactivity (H. Jenkins, 2006a) is a property of the technology, while participation is a property of culture. Participatory culture is emerging as the culture absorbs and responds to the explosion of new media technologies that make it possible for average consumers to archive, annotate, appropriate, and recirculate media content in powerful new ways” (3, 8).
Melissa enrolled in the community literacy course at State University to fulfill her second-level writing requirement, choosing this section because its meeting time (one night a week for three hours) fit her full-time work schedule. Like about half of the students in the course, Melissa was non-traditionally-aged, working full-time at the university medical center while pursuing her bachelor’s degree in nursing. Somewhat unusually for students in the course, Melissa identified as white and had no previous experience with the Black church. But she stayed in the class despite some initial reservations, she explained, because the work seemed manageable, the schedule suited her availability, and (as a senior about to graduate) she needed to satisfy the general education requirement the course fulfilled. Students in the community literacy course worked in groups to record literacy narratives from members of local churches and upload the narratives to a public online database. They completed one individual and one group multimodal project that reported on the content of their group’s literacy narratives and the process of collecting them. Both assignments included written content and a media-rich presentation.

Melissa’s experience highlights the relationship between accumulated resources and foraging, showing how accumulated resources affect what individuals need to forage for in order to support new digital composing tasks. She brought to the composing task several material digital literacy resources from her family sphere: her MacBook laptop.

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39 Melissa was 34 years old when she took the community literacy course.
40 Because many participants shared the cost of material resources with family members or received them as gifts from family members, I locate personally-owned material resources in the family sphere.
and software, including iPhoto, iMovie, and PowerPoint. She had only accumulated the intellectual resources, however, to use some of these material resources:

Julia: You also had mentioned that you did a little bit of software experimentation.
Melissa: I would just say with PowerPoint. And then I just haven’t been that familiar with Apple for very long, so I did some stuff on iPhoto, and stuff like that.
Julia: And so those were the new things...When did you switch over from using PC to using Mac?
Melissa: It’s probably been three years or so, but I just did the basics of what I needed.
Julia: Oh, so you never used iPhoto, iMovie, those kinds of digital stuff?
Melissa: iMovie I had never used. iPhoto just very basic stuff.

As a result, Melissa foraged for intellectual resources that would help her use iMovie and PowerPoint to create video clips and media-rich slideshows for her group’s project. Lisa, the lead instructor, provided students with video cameras to record narratives, and encouraged them to visit her office hours or the English department’s technology support office if they encountered any problems.

Melissa used new features of Microsoft’s PowerPoint slideshow software as she worked on the assignment. When she had questions, at first, she got help from her boyfriend, who suggested a few troubleshooting solutions while she worked on the assignment at home: “At home, we [Melissa and her boyfriend] were just brainstorming, and he said ‘Why don’t you try this?’ So he kind of helped me look at some stuff that way.” When he could not provide the digital literacy resources Melissa needed to embed media in the slides, Melissa asked her instructor for help:

Julia: Were you asking questions about “What should I do with the content here?” Or “How should I technically put it together?” Or both?
Melissa: For Lisa, I asked about content. And then the other thing was a technology question. I had a big speaker on the PowerPoint, and it was just ugly and I didn’t know how to get rid of it.

The patches Melissa forages in here are part of the family and school spheres she is connected to as a student and through her personal relationship with her significant other.

Melissa’s experience illustrates two of the criteria that guide foraging: proximity and expertise. The intellectual resources Melissa’s boyfriend offered are readily accessible because of his proximity (she describes being at home with him during their discussion). But his expertise was limited. Lisa’s expertise was more extensive, but less proximal. As the assignment deadline approached, Melissa changed foraging criteria, shifting from the family patch where she usually worked outside of class to take advantage of university-provided resources she had used before:

Melissa: And then, towards the end [of the project], I asked Lisa, because it was kind of crunch time and I need to get an answer, and I needed it to be right. […] And she had the nights that she was going to be in the lab, […] so I’m like “I got to take advantage of that.” […] There’s always been open office hours, but I’ve never really taken advantage of it. That was the first time that I really used it, and she was awesome. So it was really good. […]

Julia: How come you decided to come in and do it for Lisa?

Melissa: I think she’s approachable, but then I think the class was challenging, and it was kind of a struggle for me, so I didn’t have a choice.

Julia: “I had to.”

Melissa: There was no flying under the radar. I needed help.

Melissa’s emphasis on “crunch time” and her need for help suggests that the stakes also affected her foraging choices. She needed her question about embedding media in presentation slides answered correctly and immediately, or she would have been unable to create her group’s media-rich final project. By changing foraging patches, Melissa changed the priority she assigned to different foraging criteria as the project deadline drew.
closer. By reversing the priority she assigned to proximity and expertise, Melissa adjusted her foraging methods to respond to the changing demands of her group’s digital composing task.

Melissa also broadened her resource diet by accessing two new material digital literacy resources, QuickTime Pro and iMovie, and the intellectual resources to use them. Melissa explained that she wanted to use iMovie, a program she owned but had never used, because “I had one interview where the phone rang, so she [the interviewee] had me turn the camera off and then restart it. So I wanted to make it look like one complete movie instead of a bunch of chunks.” To learn the basics of iMovie, Melissa asked me to show her how to use iMovie on her own laptop during a class meeting. At this point, I had been sitting in on the class for a few weeks, watching, taking notes, and occasionally talking to students. Sitting side-by-side in front of her laptop in the community literacy course classroom, I walked Melissa through importing video footage to iMovie’s Event Library, moving video clips from the Event Library to the Project Stage, trimming clips, adding transitions, and exporting completed video projects. She explained that she asked for my help because “you were there and you knew and I was like ‘Yay!’” The intellectual literacy resources I provided were both proximal and expert, and illustrate Melissa’s adaptive approach to foraging. Unlike Lisa’s office hours, which had always been part of the university sphere of Melissa’s literacy ecology, my presence in the classroom offered new resources. In response to patch-level changes in her school sphere, Melissa sought out the intellectual digital literacy resources I had to offer.

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41 As a participant observer in the community literacy class, I had offered my tech-support services as a reciprocal gesture, to offer students something in return for their consent to participate in my study.
Melissa also foraged for resources to support her use of QuickTime Pro, a proprietary, Apple-owned video editing program. Lisa and the other community literacy course instructors showed students how to use QuickTime Pro to edit their recorded literacy narratives and provided computers loaded with the software for students to use during class. However, as a working student with a limited budget, Melissa wanted to use the program on her personal laptop without having to buy it. To learn how to install a free copy of QuickTime Pro, Melissa turned to a patch in the public sphere, YouTube:

Melissa: I’ve heard about other YouTube [videos] where you can get around things and you can find codes, so I just gave it a shot, and it was there.

Julia: Was it hard to find, or did you have an easy time when you searched it? Was it one of the top hits?

Melissa: It was one of the top hits, but it took me looking at a couple of different ones to figure out. Some of them I couldn’t understand the video or the volume was down, or I couldn’t read the code, or stuff like that.

Melissa’s addition of QuickTime Pro to her personal computer suggests that she is creating the kind of micro-literacy zone Scenters-Zapico describes, setting up a personalized digital literacy learning environment. Using QuickTime Pro, along with her already-purchased iMovie and PowerPoint software, she created a digital workspace on her computer to work on her composing task. To learn how to install QuickTime Pro, Melissa foraged for intellectual digital literacy resources related to cracking-style software piracy. She did not have complete knowledge of the YouTube patch she foraged in,

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42 To “crack” software, hackers remove or disable features relating to “copy protection, protection against the manipulation of software, trial/demo version, serial number, hardware key, date checks, CD check or software annoyances like nag screens and adware” (“Software”). Cracks allow people to use software for free which they would ordinarily have to pay for. For an example of the kind of QuickTime Pro cracking video tutorial Melissa describes, see https://www.youtube.com/watch?v=SnoloeaoZlc. Although the creators of software cracks are usually hobbyist members of hacking groups who compete and share cracks (as well as “warez,” pirated software) with one another in private peer-to-peer networks (see Erickson),
citing a vague awareness that these kinds of video tutorials were available. And while Melissa’s incomplete knowledge of YouTube as a patch did not prevent her from foraging successfully in it, Claire’s case below shows that these kinds of knowledge gaps can interfere with foraging. Searching for intellectual resources to install QuickTime Pro introduced Melissa to YouTube as a new foraging patch. She commented that she would probably forage there again for software cracks:

Julia: Do you think that you would [use software installation videos on YouTube] again, now that you know how to do that and have it as an idea?

Melissa: Yeah. I mean, I was a little leery, like I said, I don’t know that much about technology and I didn’t want to get a virus or turn my computer into a brick or whatever. But yeah, I would do it again. Saved me some money, and it was convenient.

Melissa’s speculation that she would forage again using YouTube points back to her adaptive approach to foraging as she learns about her patches. Her willingness to apply the same foraging tactic to future digital needs also hints at the kind of transferrable foraging approach to digital composing tasks I outline in the chapter conclusion.

Melissa’s experience foraging for resources around her digital composing task highlights several important characteristics of foraging:

- the influence of already-accumulated resources,
- the determining role played by the patches through which individuals experience the spheres that make up their ecologies, and
- the way foraging responds to changes in tasks and patches.

the cracks themselves—the digital literacy resource Melissa used to pirate QuickTime Pro—are often eventually posted on public Internet sites like YouTube and The Pirate Bay where members of the general public can find them using basic searches. Although it is possible the video Melissa used was posted by a member of a hacking group that used YouTube to exchange information, Melissa described finding the video using a basic search, not by seeking out a specific YouTube user or group. I distinguish Melissa’s foraging for cracking resources on YouTube from the kind of “hacker ethics” Brian D. Ballantine advocates, which encourages Web 2.0 writers to creatively re-appropriate existing technologies for critical purposes. She used the crack someone else created to apply an existing, free resource for her project.
Melissa’s previously-accumulated material and intellectual digital literacy resources supported many aspects of her digital composing task, limiting the number of resources she needed to forage for. The spheres she was connected to—family, \(^{43}\) school, and the public Internet—provided patches for Melissa to forage in. Finally, as the project due date approached, Melissa altered her tactics both to respond to the task’s looming deadline and to incorporate new resources as she learned more about the patches to which she had access. The relationship between proximity- and expertise-based foraging and the influence of new patch information also feature prominently in Emily’s and Claire’s cases below, further illustrating how foraging around digital composing tasks works in an ecological context.

**Emily: Foraging for a Digital Composing Environment through Social Ties**

Emily, a white nineteen-year-old, college freshman, enrolled in a laptop section of first-year writing taught at State University in the winter of her freshman year of college. In addition to an ambitious double-major (pre-med and medical technology), she was also a member of the university rifle team, spending much of her free time attending practices, traveling to competitions, and giving private shooting lessons. Like all students in the laptop section, Emily brought her own laptop to class each day and used it for writing workshops, social media posting, peer review sessions, and other activities. Outside class, she used it to complete writing assignments for the laptop section, to write lab reports and do online exercises for her science classes, and to access online entertainment and social media content.

\(^{43}\) Categorizing Melissa’s boyfriend as located in her “family” sphere (not peer sphere) points again to the blurred boundaries of these spheres. Since she talks about working on her composing task at home with him, I define this as a family-type relationship, rather than a less-intimate friend relationship.
Kristy, the laptop section instructor, made students aware of their laptops as material digital literacy resources by regularly drawing students’ attention to their computers as composing environments. She led discussions that encouraged students to think about the affordances and constraints their laptops placed on them as writers, and she encouraged them to customize their laptops by installing software and adjusting operating system settings to suit their preferences. For example, they discussed battery life, a serious concern in a laptop classroom with few outlets:

Kristy: Let’s talk about battery management. How do you extend the life of your battery?
Scott: Turn off Bluetooth. Shut down any unneeded programs.
Emily: Turn on the economy setting.
Kristy: On a Mac, enable the power saver setting and invert the colors to have the screen background dark instead of light.
Tyler: How do you do that?
Kristy: Control + Option + Command + 8. [demonstrates on overhead projector]
Several People: Cool…
Scott: On a PC, use Shift + Alt + PrintScreen to invert the colors.
Kristy: We’re learning about our machines…

When many students had trouble connecting to the university wi-fi network, Kristy encouraged them to take advantage of on-campus technology support services, especially the university’s IT helpdesk. She advised students to recognize the resources already present in their laptops and to forage in- and outside the classroom for additional resources.

Like many of her classmates, Emily extended existing digital writing habits and developed new ones in the laptop section. She set up a “text cubicle” around her seat, placing printed information she might need during class (course schedule [A], assignment prompts [B], reading/class notes [C]) alongside her laptop to create a multi-textual work
environment, pictured below in Figure 5. Emily also began experimenting with marking up her papers as she revised them in Microsoft Word, developing a color-coding system to identify passages as needing specific kinds of revision, shown in Figure 6 below. The physical and virtual workspace Emily set up in the classroom illustrates the central role her laptop (an accumulated resource) played in her composing work.

Figure 5: Emily's "Text Cubicle" at Her Seat in the Laptop Classroom

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44 Emily’s classroom text cubicle parallels the kind of micro-literacy zone Scenters-Zapico describes, except that she creates her personalized composing in a school sphere rather than a home sphere.
Like many students in the class, Emily received her laptop as a high school graduation/college entrance gift. The presence of Emily’s and her classmates’ laptops on campus only shows the outcome of their accumulation. In order to extend the questions Scenters-Zapico asks his participants about the origins of the family-provided material resources that furnish their home micro-literacy zones, I trace Emily’s laptop from its current position at the center of her college composing environment back to its purchase in her hometown the previous summer. Emily’s description of foraging for intellectual digital literacy resources to support her laptop purchase shows how social ties can create
conditions of access to resources within patches. Melissa and Claire foraged for resources through individuals who were formally, even professionally, designated as technology experts. Emily, on the other hand, foraged through family- and peer-based social ties, highlighting the role resources located outside school and professional spheres can play in supporting digital composing work. While the social ties and the resources she accessed through them are specific to her, Emily’s foraging process shows how proximity and expertise can function as foraging criteria within family and peer social networks. Emily’s experience also illustrates the influence social class and educational background exert on the digital literacy resources individuals can access through foraging, especially in family and peer spheres.

Emily’s grandmother gave her seven hundred dollars as a high school graduation gift to buy a laptop for college, suggesting the disposable income and family commitment to education that supported Emily as a university student. Specifically, her grandmother’s laptop gift indicates that Emily’s family sees such material digital literacy resources as important for success in college. To help her decide which laptop to buy, Emily gathered information from people she was connected to through family and peer relationships: her friend Natalie, her parents, and her father’s friend Nick. Emily’s grandmother’s gift of $700 toward the purchase of a laptop and the television, portable DVD player, and iPod touch (shown in Figure 5) Emily’s parents bought her point to the financial means for discretionary spending on electronics. However, Emily’s reaction to the gift and the fact that she had never had her own computer before indicate that the laptop gift was a special gift to mark a major milestone, not a casual, everyday gift. Emily made clear in her interview that she did not take for granted resources given to her by family members. For example, Emily explained that although her grandmother offered to give her more money if she needed it, she was happy that the computer she wanted cost just under $700: “when I graduated high school, my grandmother said ‘You've done so well in high school, I’m going to buy you a laptop for college, so you don’t have to worry about that.’ I'm like ‘Alright, thank you.’ So she gave me about $700, and she said ‘If you need more, just tell me. But get the laptop that you want, that you feel is appropriate, not in the price range.’ [...] It was great, because it [the laptop Emily bought] fell just below the 700 [dollar] mark. So I was like ‘That’s great.’”
illustrates Emily’s social ties to these individuals. Contacts from different spheres are identified with different colors: family (blue), peer (yellow), and distant peer (green). The lines connecting individuals in the diagram show social ties.

![Figure 7: Social Ties Supporting Emily's Foraging to Support Her Laptop Purchase](image)

I use social ties, a sociological term that describes a connection between individuals, to describe the relationships through which Emily foraged for intellectual digital literacy resources. Her case highlights the extent to which social relationships can complicate conditions of access to digital literacy resources within patches. Social ties

46 Because my focus in this study is on how individuals access literacy resources, I distinguish between the direct peer relationship Emily has with Natalie and the distant, indirect relationship she has with her father’s friend Nick. As I discuss below, the ability to follow up with additional questions or requests for resources is a major consideration for foraging, and the distance between Emily and Nick obstructs this kind of following up. To focus on the access foraging provides to digital literacy resources, I call attention here to the directness/distance of the social tie, which shapes the extent and type of resources available for foraging. My distinction between Emily’s peer and her father’s peer also reflects the ego-centered approach (see Wasserman and Faust 42) I take here to social networking analysis: Emily’s foraging contacts are defined in relationship to her rather than school, peer, and/or professional social networks in which they are also located.

47 While foraging theory does discuss “social foraging,” this branch of the field primarily describes how animals hunt in groups (see Giraldeau and Caraco), and does not address the social relationships that figure prominently for people like Emily who gather digital literacy resources from other people with whom they have preexisting relationships.

48 Although I modify foraging theory to apply it to digital composers foraging for literacy resources access through people and texts, its basic concepts like diet-breadth, foraging patches, and acting on incomplete information offer valuable metaphors for describing how individuals approach digital composing tasks. In her overview of research on information foraging, JoAnn Jacoby suggests social network analysis.
(or social relations) derive from social network analysis and describe links between two people that allow resources, interaction, information, or capital to pass between them (Wasserman and Faust 4). Like ecology theory, social network analysis positions individuals as located in and influenced by multiple systems (social groups) and examines the constraints and opportunities social ties within those networks provide (Marin and Wellman 14, Daly 259-260). As Figure 7 suggests, the resources Emily gathers through social ties span several patches and can even come from people in patches to which she does not have direct access, when her contacts’ social ties extend the reach of Emily’s own ties.

Social network analysis looks at how different social ties affect the flow of resources between linked individuals, shaping what resources are available in specific patches. Social ties run the spectrum from strong to weak, single to multiplex, goal-directed to serendipitous. Their strength is determined by the “amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie” (Granovetter 1360). Emily foraged for resources to support her laptop purchase using strong ties, characterized by “frequent, long-lasting, and affect-laden” contact (Kilduff and Tsai 33). Foraging through family- and peer-based social ties specifically as a method that could be usefully combined with optimal foraging theory to curb foraging research’s tendency to “slip into the assumption that the behavior they are studying is classically rational” (263). Using social ties to study literacy development has some precedent in the computers and composition literature, for example in Hawisher et al’s “Globalization and Agency: Designing and Re-Designing the Literacies of Cyberspace.” In this article, Hawisher et al explore the role social networks play in individuals’ digital literacy development by examining how coauthors Lu and Yi-Huey learned to use computers and compose in digital environments against a backdrop of guanxi. Hawisher et al define the Chinese concept of guanxi as “a complex set of social networks operating through personal connections [...] networks constituted by relatives, acquaintances, teachers, or organizations that can help people achieve something they might not be able to achieve alone” (620, 633). As the authors note, “In an increasingly technological world, personal connections and resources can be amplified in reach and scope—but also complicated in their formation and deployment—with the expanding network of computer networks and through the practice of digital literacies” (635, emphasis in original).

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privileges proximity. However, as Emily explains below, within these proximal patches, she sought out specific contacts based on their expertise. The resources of the people present in a patch matters: having several experts in her family and peer patches helped Emily forage efficiently and successfully. And because she foraged in familiar patches through social ties to people she knew well, Emily identified experts accurately and got the information from them that she needed. The patch-knowledge Emily had by virtue of foraging in family and peer patches eliminated the guesswork and difficulty Melissa and Claire encountered when they foraged in less familiar patches.

The strength of Emily’s ties to her friend Natalie and her parents helped her forage for expertise in proximity-based peer and family patches. Because Emily knew her mother and Natalie well and understood their areas of expertise, she had a good idea of the kinds of intellectual digital literacy resources she could access through them to inform her laptop purchase:

I went to one of my friends who’s very tech-savvy with her laptop. She loves her laptop. She does everything on it. And I’m like “Natalie, what laptop do you have?” And she’s like “Toshiba.” And I’m like “Is it a good laptop brand?” And she’s like “I love it. I’ve never had any major problems with it. It’s just so great. My family's a Toshiba family, and I got them into that honestly. My mom bought a Toshiba because I had Toshiba. And I was like ‘They were just really nice machines.'” I’m like “OK, I trust your judgment.” […] My mom works with computers too, so I’m like “What’s a fast system processor? Is this a good hard drive? What are the features on this computer? Is this a good feature to have? Is this a good feature to have?” And she was asking me questions like “Do you want a lot of extra features? Do you want a simple computer?”

The responses Emily got from Natalie and her mother suggest why social tie strength is important for foraging through the people. Knowing about Natalie’s satisfaction with her computer and her extensive use of it encouraged Emily to ask for a brand name
recommendation. Emily asked her mother, who had worked as an accountant and recently returned to school to pursue an advanced degree in information technology, a series of detailed questions about laptop features to gather more specific information about the technical specifications she should look for within the Toshiba brand. Even though Emily only foraged within pre-existing proximate family and peer patches, she was able to seek out experts. Furthermore, the conversations Emily recreates to illustrate her foraging episodes suggest that her mother and Natalie answered Emily’s questions in detail. Foraging through strong social ties meant that Emily could ask for a thorough consultation, a time investment weaker ties might not have supported (as Claire’s experience below suggests).

Rather than providing Emily with information based on his own expertise, Emily’s father became a point of contact whose own social ties connected Emily to intellectual digital literacy resources located in other patches. Although her father works as a software engineer, he was not familiar with the Toshiba brand like Natalie was and did not quiz Emily about her specific computing needs like her mother did. When Emily told her father she planned to buy a Toshiba laptop, he

started calling engineering friends he knew that work with computers. He’s like “How are Toshiba laptops? Are they good?” He was freaking out. “Are they good? I think she should get a Dell.” And then he was like “Nick says that they’re good. He says that they’re actually pretty good computers. Alright, go get a Toshiba.”

The information about Tobisha laptops’ quality that flows from Nick to Emily through her father illustrates how social ties can extend a forager’s reach by circulating resources between patches. Through her father’s connections, Emily can access engineering knowledge about computers circulating in a professional patch to which she did not have
Emily’s ability to combine proximal and expert foraging depends on having ties to people who have, or have access to, the intellectual digital literacy resources she needs to help her choose a laptop. Even the money to buy the laptop came through her social tie to her grandmother. The family and peer patches Emily forages in grant her access to valuable digital literacy resources. Expecting students like Emily to gather material and intellectual digital literacy resources through these kinds of personal ties, however, can risk perpetuating access inequalities. Scenters-Zapico argues that digital literacy sponsorship within families and peer groups can over-emphasize the power of sponsorship and downplay structural inequalities. This is a problem because

First, many people lack access, exposure, or motivation (or are intimidated) to seek out places and people who can assist them in their own struggles to learn new electronic literacies. Second, if the pattern follows nationally, our youth will be learning alone, self-sponsoring, or with instruction from peers. (Scenters-Zapico 200)
demonstrates, facilitates peer and professional ties to other people with technology expertise. The number of technology experts in her proximal patches facilitated Emily’s foraging, which helped her buy a laptop that served her well as a college freshman.

The central role Emily’s social contacts played as proximate providers of digital literacy resources raises questions about what happens for digital composers whose family and peer patches offer different resources. Without social ties to these digital literacy-resource rich contacts, where might Emily have turned? As someone who described herself as having only a modest degree of technological expertise—“I’m more tech-savvy than some people, but as far as my generation goes, I probably fall on the low end of computer tech and stuff like that”—Emily depended on foraging to access information about laptops. But not everyone enjoys Emily’s proximate access to expertise, as work on the persistence of the material, functional, and social dimensions of the digital divide in education shows (see Wilder and Dressman, Powell “Access(ing),” Pavia, and Grabill). As Barbara Monroe and Josephine Peyton Young, Deborah R. Dillon, and Elizabeth Birr Moje argue, youth with connections to non-white, lower-class, and non-English speaking family and peer spheres will have access to different literacy resources through their close social ties. Emily’s success foraging for resources that supported her laptop purchase, which ultimately supported her academic performance across her college coursework, tells

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49 Despite Emily’s modesty, I was impressed by her technological self-sufficiency as a 19-year old first-year college student. Emily nonchalantly described initially setting up her computer, trouble-shooting a hard drive malfunction that occurred mid-term, and regularly backing up files that suggested considerable accumulated intellectual digital literacy resources. Thinking back to ECAR study participants’ modest assessment of their skill level with various softwares (Figure 4), the contrast between Emily’s skills level and her characterization of it suggest a gap between students’ actual digital skills and their self-perception, where overly-modest self-assessment may obscure more sophisticated digital literacy abilities.
a familiar story of academic preparedness and success for students from white, well-educated, financially secure family spheres.

Framing Emily’s support for her college digital composing work in terms of resources and foraging tells the story of her college preparation differently, but the narrative is a familiar one of family support for school literacy work and student achievement. Young, Dillon, and Moje document this kind of smooth correlation between family sphere resources and academic success in their case study of Katie’s (the daughter of white, highly-educated parents) transition from achievement in high school to success in college (115-119). However, Young, Dillon, and Moje contrast the continuity between students like Emily’s and Katie’s literacy experiences in family and school patches with the disconnect another case study participant, Mario (a bilingual adolescent who strongly identifies with his family and friends’ Mexican heritage and culture) perceives between family, peer, and school patches (122-129).

The clear connections between literacy resources (expertise) present in her Emily’s family and peer patches and the digital literacy expectations she encounters in college lend themselves to using foraging to respond to literacy challenges like Emily’s perceived lack of “tech-savvy.” Incorporating literacy resources like Mario’s pride in the Spanish language and his critical perspective on racially-motivated oppression (125) pose more of a challenge. As Young, Dillon, and Moje note, Mario’s family- and peer-based literacy values do not align with school-sphere expectations for print and digital literacy performance in the same smooth way the resources present in Emily’s family-patch do. I will return in the chapter conclusion to questions about the kinds of literacy resources available in different patches and suggest ways foraging according to proximity can
diversify the resources that circulate between school, family, and peer spheres. The difference between the patches youth like Emily and Mario have access to also illustrate the need for further research on literacy resource foraging that considers the potential for foraging in family and peer spheres with fewer material resources and/or different intellectual resources.

For individuals located in patches populated with various types of digital literacy experts, however, Emily’s foraging approaches suggest useful models. And, as Emily’s consultation with Natalie suggests, these experts can be either officially designated technology experts (like Emily’s mother and her father’s friend Nick) or they can be relative experts, a situated approach to digital literacy expertise I discuss in Chapter 3 as “techne-mentorship.” The central role social ties that underpin Emily’s foraging methods also characterize Claire’s efforts to support her group’s digital composing task. Although Claire also foraged through social ties in resource-rich patches, Claire’s ties and the types of patches in which she forages are public and professional, rather than personal like Emily’s.

**Claire: Foraging On- and Offline for Digital Literacy Resources**

As opposed to students like Emily and Melissa, who were enrolled in a class under the supervision of an instructor, contributors to the *Stories about Literacy (SL)* edited collection were located at colleges and universities across the country. As a result, these participants bore more responsibility for identifying and gathering digital literacy resources to support their digital composing tasks. As is usually the case for academic publications, *SL* contributors were expected to complete their collection exhibits using the resources at their own disposal, working without the kind of support and referrals students
like Melissa and Emily received from their teachers at the resource-rich State University. The digital production demands of the SL exhibit task were also much greater than in the other sites for this study, asking collection contributors to build websites, interactive Flash movies, and complex Prezis that incorporated alphabetic, audio, video, and still image content. Contributors were responsible for creating a design that added meaning to their content and for making their exhibits accessible with alt-tags, video captions, and alternate versions of their text. The exhibit composing task posed many technical and rhetorical challenges, which contributors responded to by foraging for resources in university spheres, online public spheres, family spheres, and professional on- and offline social networks. This section focuses on one participant’s experience supporting her group’s exhibit by foraging for resources in online public patches and in on- and offline professional social patches.

Claire, a white, tenured professor at a mid-sized Midwestern arts university, was invited by the collection editors to contribute an exhibit with her coauthor Diane, a white, tenure-track professor at a large, Southern research-intensive university. Because Claire was the group’s technology expert (a division of responsibilities I will discuss in Chapter 3), she dealt with many of the technical questions that came up while working on the project, including choosing a digital composing environment, making design choices, and submitting the final version of the exhibit to the collection editors. Medium and makeup emerged as important considerations that shaped how Claire defined proximity and sought out expertise, affecting her knowledge of foraging patches and the kinds of resources she

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50 I use medium here to refer to Claire’s medium of contact with resources and resource providers in a given patch. The primary distinction I draw here is between face-to-face communication in real time and asynchronous virtual communication via social networking site or user forum. By makeup, I mean the human and textual sources of information found in the patches where Claire foraged.
was able to access through them. I interviewed Claire with her coauthor Diane, and so some of the interview data I include in this section features both women. I focus, however, on Claire’s foraging work around developing the exhibit design and submitting the completed project to the collection editors.

Claire built their multimodal project using WordPress.org, an open-source content management application, and hosted their website on her domain while she and Diane worked on the exhibit. Claire customized a user-generated WordPress theme51 to create the exhibit’s visual design and filled it with the written and video content she and Diane produced. Claire chose to compse in WordPress because of her previous experience using the application to build websites for family-sphere activities.52 She explained that in the past she had used WordPress to create and host a lot of websites for different things. For my daughter’s lacrosse club, for my son’s lacrosse club, for my son’s hockey team. So I’ve built and hosted websites for things like that. […] I was like “I know my way around. I can modify the templates. I can put in my own little tidbits in the CSS [cascading style sheet] pages to make it do what I want.”

51 “Themes” determine the appearance and features of a WordPress site, dictating its layout, color, fonts, spacing, et cetera using cascading style sheets (CSS). CSS files tell a website how to display the alphabetic, visual, audio, and video content a composer like Claire inserts. WordPress users create themes using PHP, HTML, or JavaScript programming languages (see Theme Development), and they can share themes with other users via WordPress’s Theme Directory. Other users can download themes from this directory and alter aspects of the CSS to customize the appearance of their site.

52 Claire and Diane elaborated on their choice to compose in WordPress as follows:

Claire:  I decided that I was either going to do Drupal or WordPress, because the open-source platform was important to me, philosophically.
Diane:  Me too, I was in on that.
Claire:  She was totally in on that one. And it wasn’t just because we said “Can’t do this. Prezi evil.”
Diane:  Stupid Prezi.
Claire:  And once we figured out exactly what we were doing, I started plugging some things, and I’d be like “Diane, Diane look at this. What do you think?” “Diane, Diane look at this!” […] I can’t hand-code. I just can’t. I mean, I would like to say that I could, but…I mean, I can, it just wouldn’t be pretty. [emphasis in original]
Claire’s experience building websites in WordPress included foraging for resources in WordPress.org’s crowd-sourced forums, where WordPress users post questions and answers about technical issues. However, when Claire needed to submit the completed exhibit to the collection editors so that it could be moved to the press’s server and housed within the ebook with the other exhibits, she encountered a problem. WordPress is an application, rather than a built-from-scratch website, and the application was not compatible with the ebook’s architecture. Claire could export the content from their WordPress site. But this would have stripped away its organization and design, without which the exhibit could not have appeared in the collection because of the emphasis the editors placed on the intellectual contributions made by exhibits’ design and multimodal, digital format. Claire described the impasse she faced when trying to figure out how to “scrape” the WordPress site in order to nest it within the collection ebook:

Julia: On your questionnaire, you said something about using, to no avail, the WordPress user forums. […] when they [the editors] wanted the website, so they can have it in their collection, and then you had problems exporting it?

Claire: It’s very hard to scrape a WordPress site. Unless, I mean, you could export it and you can shift it and put it into another WordPress install.

Julia: Right.

Claire: But if what you’re creating isn’t in the WordPress platform, it’s extremely difficult. […] I searched high and low for stuff on easy ways to, I call it scraping, scrape a WordPress site.

Claire selected her composing environment in part based on her experience troubleshooting WordPress-generated websites by foraging for information on user forums. When foraging in this patch in the past, Claire had been able to find intellectual

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53 WordPress also has an “Ideas” page where users can suggest system-level changes to the application and a “Kvetch!” page where users can anonymously post on “What really ticks you off about WordPress?” Both pages generate feedback WordPress developers take into consideration when modifying the application.
digital literacy resources to answer her technical questions. However, when she foraged for information on “scraping” WordPress sites, she was unsuccessful.

Part of the reason Claire had trouble foraging in the WordPress forums for scraping information was because she was “poaching” the application, in de Certeau’s terms, using WordPress in a way it was not intended.54 As a content-management system, a WordPress site is not designed to be housed within a larger website. It is designed to be the housing website. As a result, the WordPress forums did not offer guidance for how to use the application in the way Claire wanted to, as a set of sub-pages inside a larger website. In their Theme Directory, WordPress warns users that “If you want your theme to be proprietary or promote things that violate WordPress’ [sic] license on your site, the directory probably isn’t the best home for your work,” illustrating the limits the organization sets for what users will do with the application.

Although this warning refers primarily to WordPress’s commitment to keeping its code open-source and adding any plug-ins or other “derivative works” to the site’s free library (see “GNU General Public License”), the absence of scraping resources on WordPress forums points to a limitation to relying on the “prosumer”-generated resources found there. Prosumers, a term coined by Alvin Toffler, blur the boundary between production and consumption by helping to create the goods and services they use (Third, Previews).55 WordPress.org is an example of the kind of prosumer product popular

54 Although Henry Jenkins’ popularization of textual poaching focuses on interpreting texts against the grain of authorial intent, de Certeau’s original characterization of poaching focuses on the act of opportunistic, ad-hoc appropriation: poaching, as a tactic, “takes advantage of ‘opportunities’ and depends on them,” it must “accept the chance offerings of the moment, and seize on the wing the possibilities that offer themselves at any given moment” (37). This is the meaning of the term I use here.

55 Toffler’s original prosumer concept, developed in the early 1980s, described prosumer activities in the physical world, like participating in Alcoholics Anonymous-style support groups and DIY home
economists Don Tapscott and Anthony D. Williams describe, a basic product that offers users “a platform for their own innovations” (148). However, the kind of poaching Claire wanted to do (nesting her group’s WordPress site within the edited collection ebook) required technical skills she did not have and could not find in the user forums.

The crowd-sourced nature of WordPress’s support patch points to one of the risks associated with ecological foraging. The fact that Claire had foraged successfully for troubleshooting information in the past made her confident she would be able to find prosumer-provided answers to her questions as they came up during the exhibit task. Claire’s inability to find scraping information when she needed it illustrates the limitations of relying on a self-sponsored prosumer patch. WordPress forum users post questions about problems they encounter and provide answers based on their experience. If other users’ resources do not align with a forager’s needs, as in Claire’s case, the patch cannot support the digital composing activity. Although Claire did not post a forum question, the voluntary nature of prosumer contribution means that there was no guarantee she would have gotten the information she needed by doing so, particularly within the exhibit submission deadline. The dynamic nature of the WordPress forums as a patch and their prosumer provision offer many resources (currently over thirty-three thousand questions have been asked, over twenty-four thousand of which have been answered) and the opportunity to generate more by posting new topics. But foraging in the user forums could not support Claire’s particular poaching needs under her tight timeline. Whereas Melissa improvement. Many twenty-first century applications of prosumption have focused instead on coproduction of virtual products like video games, virtual worlds, web 2.0 content, and software (see Ritzer and Jurgenson, Kienle et al, Grinnell, and Comor). This is the kind of prosumption WordPress forum posters engage in, often sharing code to create workarounds like the one Claire needed.  

These figures reflect the total number of topics posted on the WordPress.org forums (“All Topics”), less the number of topics with no replies (“No Replies”) on 2 April 2013.
could forage in her university patch by asking her teacher (the ultimate expert for a classroom project) questions she couldn’t resolve, the nature of Claire’s question and the nature of WordPress forums as a patch meant that she could not access the intellectual digital literacy resources she needed.

When foraging in the WordPress forums failed to meet Claire’s needs, she shifted to her professional social network. Claire’s professional network included people like her friend and coauthor Diane, as well as colleagues to whom she has weaker social ties. Claire’s multiplex social ties, characterized by multiple factors like shared professional interests and friendship (Marin and Wellman 21), facilitated different degrees of access to resources located in her professional patch than social ties based on a single factor, shared professional interest. The nature and strength of Claire’s social ties also shaped the medium through which she foraged. Because her coauthor and the experts from whom Claire gathered resources for the exhibit composing task were physically distant, choosing a medium for foraging required Claire to make choices about proximity, convenience, and communicative affordances. These decisions were shaped by the nature of her social ties to the experts located in her professional patches.

After searching “high and low” on the WordPress forums for information about scraping, Claire saw a Facebook post from a professional contact referring to the same technical issue.57

57 Academics—especially those who research and publish in digital contexts—increasingly use social media to create a collegial professional online sphere in which they exchange ideas, resources, and personal comments in social tie-based networks on Facebook, Twitter, and other social media platforms (see Weller, Leon and Pigg). For scholars like Claire and her colleagues, the online dimension of their personal/professional network becomes a resource-rich patch for foraging, as well as for socializing with colleagues who share common interests. The mixture of purposes for which Nicole uses Facebook reflects the spectrum of factors Aaron Smith’s Pew Internet and American Life Project study identified as reasons
Nicole is a prominent scholar in computers and composition who edits a leading digital journal and uses her social media presence for a mixture of personal and professional purposes, as indicated by the shout-out/trouble-shooting reference Claire saw on Facebook. But social media did not facilitate the exchange of literacy resources Claire needed to resolve the WordPress scraping issue, even though the information was available to others in this professional patch. Nicole did not offer to explain the lengthy process of scraping a WordPress site, nor did Claire expect her to on the basis of their single, relatively weak tie. Claire’s inability to forage through her weak tie to Nicole through Facebook suggests the limited foraging potential of patches constituted by social media and other text-based, asynchronous online venues (like email). As I argue below, Claire’s difficulty foraging through Facebook was a result of both the weak, single tie that connected her to Nicole and of the communicative conventions of Facebook.

In contrast, at another stage of the project, Patrick, a colleague and friend of Claire and Diane’s who attended graduate school with Diane and had worked as an instructor at the professional development institute where Claire and Diane met several years earlier,
invited the coauthors to stay at his house for a working weekend. In addition to providing a meeting place halfway between Claire’s and Diane’s hometowns (located 600 miles apart), Patrick worked with the coauthors to focus their project and start brainstorming design ideas for it:

Diane: So we went to stay with our friend Patrick for the weekend. And ate good food and kind of tried to storyboard some and had a meeting with him. And he helped us a lot. He’s really good.

Claire: Patrick, he was really good. He’s our resource, actually.

Julia: Yeah.

Diane and Claire: We had a resource! [Julia laughs]

Claire: Yeah, we had a Patrick. […]

Diane: So he helped us [with] the questions he asked us. We didn’t really leave there with so much more.

Claire: Right.

Diane: But he’d asked us the kinds of questions that would help us lop off the large parts.

Claire: Right.

Diane: To really narrow down what it was we wanted to say and look for and think about.

Although they had to travel far to meet at his house, Patrick’s invitation and the face-to-face meeting it facilitated allowed Claire (and Diane) to forage for intellectual digital literacy resources that helped Claire, as the exhibit designer, build their project.

The professional patch foraging Claire was able to do face-to-face with Patrick compared to her difficulty foraging with Nicole via Facebook brings up several access considerations. One has to do with tie strength. As in Emily’s case, Claire’s and Diane’s strong, multiplex social ties to Patrick facilitated digital literacy resource foraging via extended face-to-face conversation, while Claire’s weaker tie to Nicole did not. The difference in the media through which Claire foraged also figures significantly in constituting a patch and bringing resources into proximity. In his work on foraging in hunter-gatherer societies, Kelly highlights the affect technology has on foraging: using a
bow and arrow or blowgun to hunt, for example, changes foraging conditions by bringing formerly unattainable food sources within reach (89). These technologies effectively increase the number of accessible resources in a patch. For Claire, and for Melissa as well, the Internet functioned as a foraging technology, a tool that brought distant digital literacy resources into close proximity. Searching the Internet brought up WordPress prosumer content and Nicole’s Facebook posts on the home and work computers where Claire worked on her exhibit, allowing her to access their expertise at her convenience. However, if the resources she needed were not available, as with the WordPress forum, patch proximity still failed to support foraging.

Similarly, Nicole’s refusal to answer Claire’s question on the basis of its length and complexity reflects the kind of communication Facebook facilitates, re-introducing the distinction Karper makes between resource availability and resource accessibility. Social media typically encourages short, pithy comments like Nicole’s shout-out to her colleague Erik (see Gershon, Purdy and Walker), rather than the kind of detailed, extensive explanation required to resolve the WordPress scraping issue. The question of social ties comes up again here: Nicole could have walked Claire through the scraping process offline (where extended conversation would have been more convenient) or referred her to Erik, the colleague who solved the scraping problem. But Nicole did not do

58 Ilana Gershon discusses how individuals decide which medium to use in order to communicate specific types of information. Participants—college students and young adults discussing how they communicate during and after a relationship ends—describe carefully choosing between text messaging, social networking sites, email, and letters to communicate with former friends and significant others, based on the message length the medium allows, the recipient’s ability to ask for clarification or reply immediately, and the medium’s relative privacy.

59 James P. Purdy and Joyce R. Walker’s analysis of scholarly Twitter discussions argues that while academic tweets contain critique, knowledge production, and contributions to the field, what distinguishes them primarily from other scholarly genres (like the article and book) is their length.
either of these things, nor did Claire imply that she expected Nicole to do so. The digital literacy resources Nicole had access to through Erik were not accessible to Claire through the social networking medium that constituted this geographically and emotionally distant professional patch. As a foraging technology, the Internet brought public prosumer and social media-mediated professional patches into close proximity. However, Claire was not able to forage successfully in them because of the prosumer nature of WordPress forums and the communication conventions of social media.

The trade-offs between foraging patches’ proximity and accessibility in Claire’s interaction with Nicole, compared to her (and Diane’s) interaction with Patrick, are illustrative. Where Nicole’s Facebook-accessible expertise was proximal, but offered only limited accessibility to its available resources, Patrick’s face-to-face expertise was a four and a half hour drive away. The consultation Claire describes with Patrick—meeting to storyboard (develop a design) and focus their project (refine its scope)—is the kind of lengthy discussion Nicole declines having with Claire on Facebook. Patrick’s invitation to Claire and Diane to spend the weekend working at his home is generous, reflecting a strong social tie. That tie facilitated a face-to-face meeting between Claire and Diane that allowed them to forage for digital literacy resources through Patrick’s expertise by resituating the physical distance that characterized their face-to-face professional patch. I discuss the affordances and constraints of working on group digital composing tasks in online, asynchronous spaces versus in face-to-face, co-present spaces in greater detail in Chapter 4. However, for foraging purposes here, Claire’s experience foraging on- and offline in prosumer and professional patches through social ties points to the proximity the
Internet can offer as a foraging technology, as well as the limits the online medium placed on Claire’s access to the digital literacy resources she found there.

Teachers cannot assume that students will be part of a durable, multiplex social network like the professional network that connects Claire (and Diane) to Nicole and Patrick. And not every student will be an experienced user of online prosumer resources like Claire. However, the relationship between the strong, multiplex, and weak, single ties that connect them and the media they use to communicate suggest implications for foraging more generally. The kinds of resources provided on the WordPress user forums depend on prosumer interest. Because participation is voluntary, there is no guarantee a forager will be able to find the information they seek. The user forums are a patch about which foragers cannot have complete knowledge: although they can check whether a piece of information is currently available, they have no way of knowing whether a new query will turn up a sought-after digital literacy resource. While communication in online user forums like WordPress can be extensive and detailed (see Hunter 2009 and 2011), short-form online communication venues like Facebook and Twitter favor brief exchanges that do not facilitate detailed teaching sessions. In such cases, face-to-face consultations play an important role in successful foraging, allowing foragers to gather more extensive digital literacy resources from experts. Lengthy, face-to-face interactions usually require proximity, however, and they typically depend on a pre-existing connection like Claire and Patrick’s social tie or the Melissa and Lisa’s student-teacher relationship. The issues of foraging medium and responsiveness Claire encountered while attempting to scrape her WordPress site are important factors to consider when deciding which patches to forage in and how to forage in them.
**Conclusion: Using Foraging to Support Digital Composing Tasks**

Foraging as a metaphor for approaching digital composing tasks draws attention to the relationship between the task and the resources found in the wider literacy ecologies in which individuals are located. As suggested by the experiences of this chapter’s focal participants, foraging encourages individuals to look at the digital literacy resources around them as a starting point for supporting digital composing tasks. Beginning from the ecological perspective Barton, Gillam, and Wardle and Roozen advocate, which sees everyday life as full of literacy practices, foraging asks composers to think about these practices as resources they can apply to specific tasks. Going beyond Gillam’s efforts to raise students’ awareness of the richness of their everyday literacy experiences, the foraging pedagogy I advocate encourages students to seek out and transfer digital literacy resources across the patches that make up their lived literacy ecologies. As I argue in Chapter 1, the growing presence of digital assignments and activities in mainstream writing instruction points to the need for pedagogies to cultivate writing processes that deal with the particular material and intellectual demands posed by digital tasks. This is especially important when, as I argue at the beginning of the chapter and in Melissa’s and Emily’s cases, digital literacy resources are unevenly distributed in students’ family and school spheres.

I propose foraging as a flexible metaphor digital composers can use to approach their tasks. Framing digital composing in terms of resource foraging encourages students to approach tasks from where they are currently located. This, I argue, begins to offer a way to bridge the *participation* gap Mizuko Ito et al identify around youth engagement with digital technologies (347-348) by calling students’ attention to the material and
intellectual digital literacy resources are already present in their everyday lives, whether or not students identify themselves as technology enthusiasts. Admittedly, foraging places the burden for identifying and accessing resources on students. This is because a considerable amount of students’ digital composing work takes place outside the classroom, where teacher-provided resources are not available. As a result, foraging focuses on material and intellectual digital literacy resources beyond those provided explicitly by the teacher. In cases like Melissa’s where the teacher provided considerable resources, students have only a few gaps to fill in. For larger, more ambitious and self-defined projects like Claire’s, however, students may need to seek out many resources independently. Focusing on non-classroom resources is also an important part of the digital composing process this study examines. Thinking about resource access in terms of foraging is designed to cultivate approaches to digital composing that individuals can transfer from one task to another, even as the specific resources available to them change. At a minimum, foraging pedagogy draws students’ attention to the university-provided resources located in their school patches, which provide some support, even if their extracurricular spheres do not provide access to digital literacy resources.

Figure 8 below maps out the foraging-based approach to digital composing tasks I describe in this chapter. This flow chart is designed to help students identify and access the material and intellectual resources they need to work on digital composing tasks. Figure 8 begins with the conceptual spheres I use to distinguish different parts of the literacy ecologies in which individuals are located in. The flow chart guides students through the process of deciding how and where to forage for resources. The bolded questions ask questions to prompt students to make foraging choices. Based on their
answers, the green arrows indicate how to continue foraging. When students hit a dead end, red arrows direct students back to the top of the diagram to re-evaluate their sphere options and restart the foraging process. Solid green lines indicate where individuals can proceed along their foraging path with relative confidence, while dotted green lines signify that foraging in the patch they lead to may be risky, but that students may wish to proceed if they have time to forage elsewhere later.

Figure 8: Guiding Flowchart for Digital Literacy Resource Foraging
The first step in the resource foraging process asks digital composers to consider the resources present in one of the spheres that make up their ecology. This is what Emily did, for example, when she identified her mother and her friend Natalie as potential sources of advice on what laptop to buy.\textsuperscript{60} Foraging can hit its first roadblock here: what happens when the answer for all spheres is “no”? As Claire’s experience suggests, this can happen. If the resource is absent from the composer’s literacy ecology, they must shift to a different digital literacy resource, which may force them to modify, or even abandon, their task. I will address barriers to resource access that obstruct groups’ and individuals’ work on composing tasks in greater detail in Chapter 4. For now, I argue that the responsibility foraging places on individual composers to transfer resources across spheres encourages the kinds of connections that Young, Dillon, and Moje show Mario trying to make between his literacy experience in and out of school. While Mario’s teacher discouraged his attempt to bring home-based literacy resources and values in the classroom (125-126), a pedagogy that embraces foraging obligates teachers to acknowledge and work with the resources students gather from other spheres.

The next question in the foraging chart asks about patch knowledge. How much do composers know about the patch in which they plan to forage? When Emily and Melissa foraged in family patches, they had extensive knowledge of the people located there and the resources these contacts had access to. Incomplete patch knowledge can be risky, however, as Claire’s experience demonstrates. But on the other hand, proceeding despite limited patch knowledge can pay off, as Melissa’s YouTube foraging experience suggests.

\textsuperscript{60} In my case studies, I frame the presence of resources in terms of expertise, but to include material digital literacy resources in my pedagogical proposal, here I use the terminology of “resources present.”
The role a resource plays in the digital composing task is an important consideration here. Melissa wanted to install QuickTime Pro on her laptop, but she did not need to do so. She could have used the classroom laptops Lisa provided. Installing her own copy of QuickTime Pro simply made Melissa’s work on the project more convenient. On the other hand, to submit the final version of her group’s SL exhibit, Claire needed to find out how to scrape her group’s WordPress site, or their exhibit would not have been published in the collection. Extensive patch knowledge is important for accessing resources that will make or break a project. Again, although my case study examples in this chapter focus on foraging for intellectual digital literacy resources, patch knowledge also applies to material resources. What are the lab hours? Is there a conversion program on my friend’s laptop that will convert a Windows-format video to a format iMovie will read? Is the wi-fi signal in this coffee shop strong enough and reliable enough to edit a cloud-based Prezi document? Lack of patch knowledge does not have to be a roadblock that necessarily dissuades a composer from foraging there. Attempts at foraging can be learning experiences that develop patch knowledge for future composing tasks. However, if time is short or the resource is critical, limited experience foraging in a patch should raise a red flag, if not a red light, for digital composers.

The next foraging question concerns proximity, asking composers to consider the quantity, ease, and nature of their access to resources in the patch. Melissa’s and Emily’s family-patch foraging was characterized by regular access to family members with relevant expertise. Seeking out her teacher’s office hours provided Melissa with reliable

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61 The designer who put together the book for the edited collection eventually figured out how to scrape Claire and Diane’s WordPress exhibit, and it was published in the SL collection.
access to the intellectual resources Lisa could provide, even if their school patch location was less convenient in terms of time and physical location than her family patch. Like patch familiarity, close physical proximity is not a necessary condition for foraging. However, lack of physical proximity can make foraging difficult. Claire’s experience shows how travel and online resources/communication can bridge physical distance. Composers can travel to physically distant resources (like Patrick’s expertise), but travel time and expense limits how often or how long they can access distant resources in person. Online resources are available anywhere with Internet access, but, as I discuss below, they can be problematically unresponsive to foraging queries.

The final set of guiding questions has to do with the medium of communication through which an individual accesses resources in the patch. Sometimes medium, resources, and proximity present trade-offs. The most physically proximate patches may not contain the most relevant digital literacy resources, but their face-to-face medium of communication can allow for extensive discussion and follow-ups. In Emily’s case, talking to her father about her plans to buy a Toshiba laptop did not immediately connect her to additional information. But her father’s ability to report back to Emily what he learned from his friend Nick corroborated the Toshiba endorsement Emily got from her friend Natalie. Similarly, Melissa’s ability to visit Lisa’s scheduled office hours allowed Melissa to show Lisa exactly what her troublesome slides looked like so she could gather exactly the literacy resources she needed.

Communicating face-to-face has clear benefits for accessing available resources, but it is usually limited to physically proximate patches. As Claire’s and Melissa’s experience illustrates, using the Internet as a foraging tool can provide access to new and
distant resources in virtually-constituted patches. And when the resources are common or relatively simple (like Melissa’s YouTube tutorial) the limited potential for response or inability to request additional information may not cause problems. However, when the resources being sought are unusual or complicated (like Claire’s search for WordPress scraping information), the tendency to communicate in short messages or to provide law-abiding (rather than poaching) resources can obstruct foraging. As with patch knowledge, digital composers should think carefully about which media they use to forage, depending on the resources they seek.

As my description above suggests, approaching digital composing tasks through foraging is a relatively conservative pedagogical approach. It asks composers to thoroughly evaluate and (when possible) apply the resources accessible through the actual patches they inhabit. My modest foraging proposal echoes Neil Selwyn’s argument for weaving together the universalizing, leveling tendencies of formal education and the varied, self-sponsored digital literacy practices found in self-sponsored participatory digital cultures. This chapter suggests a process-oriented pedagogy for supporting students’ digital composing work in the here and now, while teachers and administrators work toward increasing opportunities for digital literacy development. Although I argue that foraging has the potential to bring the richness and power of family-, peer-, and public-based literacy resources into school spheres, foraging aligns with the kind of pliant, compromise position Cadle and Monske assume. It is not a radical call to structural change that would immediately improve school-sphere access to digital literacy resources for all students. But at a time when digital composing has entered many writing
classrooms and programs on the terms of print-based composing, foraging offers students (and their teachers) a way to work within their unequally-provisioned literacy ecologies.
Chapter 3: “Everybody had different parts that they brought to make the whole”: Collaborating and Cooperating on Group Digital Composing Tasks

Opening Anecdote:

In the fall of 2011, I taught a multiliteracies-themed course introducing students to digital media composing. For the final project, students worked in pairs to create a 5-minute video on a topic of their choice. I had students work with partners in order to spread the planning, recording, and editing work between two people and to encourage partners to serve as peer mentors for one other, sharing resources to support each other’s work.

How partners worked together on their projects surprised me, though. Hardly any of them worked together to plan, film, and edit their videos, as I had envisioned. Instead, one partner planned the video and created a storyboard; the other edited all the footage. One partner did all the filming; the other appeared in all the shots. One partner coordinated extras and arranged shooting locations; the other kept the journal they used to document their work on the project. Most partners divided up the work, each taking responsibility for distinct aspects of the project.

Observing this “divide and conquer” approach made me wonder about my expectations for the assignment. Was I reasonable to expect students to work side-by-side throughout the composing task? Was that the best way to achieve my goal of introducing students to the planning, recording, and editing work involved in digital video production? What—if any—digital literacy resources might students have exchanged as they worked together sequentially rather than in tandem?

In Chapter 2, I looked at how individuals foraged for literacy resources to support digital composing tasks in patches located within literacy ecologies. The emphasis there was on how individual digital composers used their connections to family, peer, school, and professional spheres to access the digital literacy resources they needed. This chapter looks at how resources accessible to individual group members come together around the group’s composing task and the extent to which these resources circulated (or not) among members as they worked together. Even more so than in Chapter 2, the digital literacy
resources various group members brought to bear on the composing task do not always pertain directly to technology skills or devices. Members of the composing groups emphasized that resources like social ties and content knowledge constituted valuable contributions, without which the project would have turned out completely different. The influence of these non-technological contributions highlights the role a variety of social, material, and intellectual resources can play in supporting digital group composing tasks. This chapter looks at how the composing task created a cluster of resources in the school and professional patches within which student and faculty groups were located. The resources in the cluster and their relationships to the patches from which they were originally drawn shaped how the groups structured their composing task.

Drawing on scholarship about group composing processes and digital literacy acquisition, I focus on the relationship between collaborative and cooperative group composing processes. I look especially at how these processes relate to the exchange (or not) of digital composing resources, arguing that cooperation—as well as collaboration—can promote literacy resource transfer among members of digital composing groups. Finally, I propose metacognitive exercises for scaffolding classroom digital composing projects that frame these tasks as opportunities to accumulate new digital literacy resources. Research questions for this chapter include:

- How is the group digital composing task structured and labor distributed among members? How durable are these task structures and member roles?
- What is the relationship between group members’ access to literacy resources through previous social, professional, and composing experience and the contributions they make to the group?
- To what extent do digital literacy resources circulate among members of composing groups as they work on the task? To what extent can/do members apply these new literacy resources to future digital literacy activities?
Table 11: Participants in Chapter 3, Listed in Order of Appearance

<table>
<thead>
<tr>
<th>Community Literacy Course Site</th>
<th>Sylvia</th>
<th>Black, retired school teacher and principal, community/church member and instructor for the community literacy course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jacob</td>
<td>White undergraduate student in his early 20s, served as group technology expert</td>
</tr>
<tr>
<td></td>
<td>Charlie</td>
<td>White graduate student and full-time high school teachers in his mid-30s, served as group leader</td>
</tr>
<tr>
<td></td>
<td>Nia</td>
<td>Black undergraduate student and full-time working parent in her mid-30s, served as group leader</td>
</tr>
<tr>
<td>Laptop Section Site</td>
<td>Scott</td>
<td>White traditionally-aged freshman, informally assumed group leader and techne-mentor role</td>
</tr>
<tr>
<td></td>
<td>Laura</td>
<td>White traditionally-aged freshman, informally assumed director role in group</td>
</tr>
<tr>
<td>Stories about Literacy Site</td>
<td>Carolyn</td>
<td>White, long-term writing instructor and director of local National Writing Project site in her mid-60s</td>
</tr>
<tr>
<td></td>
<td>Jim</td>
<td>White, assistant professor in his mid-40s</td>
</tr>
<tr>
<td></td>
<td>Tony</td>
<td>White, long-term writing instructor and Director of Composition in his early 70s</td>
</tr>
<tr>
<td></td>
<td>Karen</td>
<td>White full professor in her mid-50s</td>
</tr>
</tbody>
</table>

Approaches to Group Digital Composing Tasks

In this chapter, I look at digital composing groups as clusters of resources created by the resources group members bring to bear on a digital composing task. To look at how these resources and group members interact, I draw on Robert J. Bracewell and Stephen P. Witte’s definition of a task as “the set of goals and actions that implement these goals, which are developed in order to achieve a solution to a complex problem within a specific work context” (528). My analysis in this chapter focuses on the

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62 Readers familiar with research on writing groups (see Lisa Ede and Andrea Lunsford, Anne Ruggles Gere Writing, Candace Spigelman) focuses primarily on composing alphabetic texts (“writing”), participants in my study composed texts in written, visual, audio, and video modes. I draw on writing group research because, despite the fact that the composing processes I describe took place in digital environments and often include non-alphabetic media, I address many of the same concerns as do scholars studying groups writing alphabetic texts. Like the scholars I draw on, I examine interactions among composing group members and how these interactions were influenced by members’ literacy experience, which itself was shaped by their gender, race, class, age, educational, and professional backgrounds.
processes groups used to realize these goals, what Bracewell and Witte call “actions.” Groups’ approaches to their composing tasks were shaped by the accumulated and foraged-for resources individual members contributed (described in Chapter 2). The groups’ composing processes also influenced the extent to which digital literacy resources circulated among group members, creating opportunities (or not) for members to transfer these new resources to future composing tasks.

Group composing encourages more formal task structuring than does individual composing. An individual composer can move through the task procedurally, without structuring the task as explicitly, since they will be doing all the work. In a composing task involving multiple people, however, group members’ responsibilities must be explicitly articulated to tell individuals what they are expected to work on, as Kami Day and Michele Eodice note in their study of long-standing academic writing partnerships (127-128).63 In their study of writing in groups, Lisa Ede and Andrea Lunsford argue that a group composing task

includes any of the activities that lead to a completed written document. These activities include written and spoken brainstorming, outlining, note-taking, organizational planning, drafting, revising, and editing. Written products include any piece of writing, from notes, directions, and forms to reports and published materials. (14)

Ede and Lunsford’s definition includes many of the kinds of planning, research, and group consulting work featured in this chapter that do not directly generate text, but without which the composing task could not have been completed. I oppose the distinction product-focused scholars like David W. Smit draw between composing and

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63 Geraldine McNenny and Duane H. Roen note that group composing tasks do not always operate this way, but groups that plan their task and assign responsibilities to individual members are more likely to complete their projects and less likely to report tension between members.
what he calls “precursors” to composing (“Some” 76-77). Along with Joann Keyton and Stephensen J. Beck (499), I argue that these social and intellectual activities are fundamental parts of group composing tasks, without which the task would have no content or rhetorical context.

The way members of a composing group structure their task fundamentally shapes their experience working together and the text they produce. To study how digital composing groups distribute responsibilities among members and the extent to which literacy resources circulate among members, I draw on research on collaborative and cooperative approaches to group composing. Ede and Lunsford distinguish between two types of group composing:

Table 12: Contrasting Ede and Lunsford’s Hierarchical and Dialogic Modes of Collaboration (133)

| Hierarchical Collaboration | is carefully, and often rigidly, structured, driven by highly specific goals, and carried out by people playing clearly defined and delimited roles. […] Because productivity and efficiency are of the essence in this mode of collaboration, the realities of multiple voices and shifting authority are seen as difficulties to be overcome or resolved. |
| Dialogic Collaboration | is loosely structured, and the roles enacted within it are fluid: one person may occupy multiple and shifting roles as a project progresses […] Those participating in dialogic collaboration generally value the creative tension inherent in multivoiced and multivalent ventures. |

Although Ede and Lunsford state that both forms of collaboration are valuable and present in the workplaces they study, they argue that the hierarchical method’s rigid structuring can promote inequality (134). They note that because roles in hierarchical

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64 Smit’s examples of “precursors” to composing include developing positive attitudes about composing, metacognitive awareness about composing, and experience working with others on composing tasks.
collaborative composing groups are often linked to individuals’ positions within the organization, high-ranking colleagues (like managers) tend to assume leadership roles within the composing group where they can influence the content and structure of the task (35-38). At the same time, Ede and Lunsford observe that lower-status colleagues (like secretaries) tend to assume roles that do not give them control over the task’s structure or content (137-139). As a result, these lower-status colleagues often alter boilerplate documents or edit texts written by others, meaning that they do not invent their own texts or help structure of the task (137-139). While Ede and Lunsford do not argue against hierarchical collaboration, they warn against its potential to perpetuate inequalities between group members and advise group composers to use the hierarchical approach with caution.

Taking up Ede and Lunsford’s distinction between different methods for structuring group composing, I follow Kathleen Blake Yancey and Michael Spooner’s argument for limiting the term “collaboration” to what Ede and Lunsford call dialogic collaboration (49-50). Yancey and Spooner suggest that Ede and Lunsford’s “hierarchical collaboration” be re-categorized as a different approach to group work: cooperation (49-52). They define cooperation as a method of organizing a task that emphasizes “clear structure, division of roles, division of knowledge, efficiency—‘hierarchy’ in its neutral or positive dimension,” which parallels the emphasis on roles, goals, and efficiency that defines Ede and Lunsford’s hierarchical collaboration (52). Collaborative and cooperative composing methods have different connotations, however, in the literature on group writing. Kenneth A. Bruffee’s comparison of cooperation and collaboration in classroom composing groups indicates how these two methods are often positioned in opposition to
each other. He contrasts them in terms of student age, teacher guidance, accountability, and dialogism:

Table 13: Bruffee's Comparison of Cooperative and Collaborative Group Composing Methods (87-91)

<table>
<thead>
<tr>
<th></th>
<th>Cooperative</th>
<th>Collaborative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Age</strong></td>
<td>Designed for primary school students learning to work with others civilly</td>
<td>Designed for college students learning to construct knowledge socially</td>
</tr>
<tr>
<td><strong>Teacher Guidance</strong></td>
<td>Teacher defines students’ roles within group</td>
<td>Group members must define and direct their own activities</td>
</tr>
<tr>
<td><strong>Individual Accountability for Group Work</strong></td>
<td>Teacher holds students individually accountable through post-activity assessment</td>
<td>Teacher should not assess collaborative group work itself, only its products</td>
</tr>
<tr>
<td><strong>Dialogism</strong></td>
<td>Students encouraged to embrace revealed information (such as group member roles and their functions)</td>
<td>Dissent between group members encouraged as a productive intellectual exercise</td>
</tr>
</tbody>
</table>

Bruffee’s positive characterization of collaboration (associated with college students’ critical thinking and self-directed learning) compared to his negative description of cooperation (associated with children’s uncritical acceptance of proscribed roles and activities) points to the progressive/regressive binary often drawn between the two approaches to group composing work.

However, as Smit argues in his critique of collaborative pedagogy, group composing tasks often rely on carefully structured cooperative methods and on dialogic, critical collaborative activities. Extending Smit’s suggestion that cooperative approaches to group composing merit further consideration, Yancey and Spooner suggest that cooperation and collaboration be thought of as a continuum based on the individual
responsibility and authority vested in members of the composing group, illustrated by Figure 9 below. Arguing that few group composing tasks play out from start to finish as either completely collaborative or completely cooperative, Yancey and Spooner suggest that group members may divide responsibilities differently at different stages of a composing task. The faculty coauthors Day and Eodice study bear out Yancey and Spooner’s suggestion, describing how they engage in “a combination of face-to-face composing (‘full collaboration’) and writing sections individually, which are then blended (‘partial collaboration’)” (131). While Day and Eodice asked long-term coauthors to generalize about their writing process across multiple projects, the cases in this chapter trace digital composing groups’ use of cooperative and collaborative approaches during a single task. The groups I study are project-based, rather than long-standing, although the edited collection group members did work in the same university department. Furthermore, I focus on the connections between group members and spheres, their use of cooperative/collaborative methods, and the demands of different phases of the task, rather than emphasizing (as Day and Eodice do) the development of group-specific coauthoring practices couched in intellectually and emotionally intimate relationships.

Figure 9: Yancey and Spooner’s Composing Continuum (52)

65 In Andrea Lunsford and Lisa Ede’s more recent work on collaboration, they also place collaboration on a continuum “from the single scholar who produces a monograph by silently ‘conversing’ with other authors, readers, and editors to the huge and shifting coalitions that produce mass participatory texts such as Wikipedia” (200). They continue to describe all forms of group composing as forms of “collaboration,” however, regardless of the specific ways in which group members work together.
Calling attention to the value of cooperative group composing methods is not to
deny the importance of the free-form, egalitarian development of ideas that Ede and
Lunsford and Bruffee associate with dialogic collaboration. Instead, I argue that members
of the case study groups negotiated shifting responsibilities. Groups went through phases
of collaborative resource exchange and periods of independent cooperative work on an
assigned part of the task. The roles and associated responsibilities members assumed
were shaped by the accumulated literacy resources individual members brought to the
group from their experiences in other ecological subsystems, although not wholly
constrained by them. Group members’ investment in the composing task also factored
into the roles they assumed, which suggests ways to frame classroom group digital
composing tasks as learning opportunities that take advantage of the cluster of resources
the task brings together.

Shifts between cooperative role designation and collaborative sharing of
responsibilities characterized the focal groups I highlight in this chapter. These shifts
illustrate the dynamic nature of the groups as clusters of resources and individuals that
are connected to members’ family, peer, school, professional, and public spheres. The
cluster lasts as long as the task does, and the literacy resources individual members
contribute play different roles as the task moves through different phases. The availability
of resources in the task-based cluster and their circulation between members can also
change as a result of changes in patches connected to the project.66 I argue that the

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66 Although I do not deal with these kinds of changes to resource access in other patches in this chapter,
this kind of instability did affect some groups, when, for example, Jacob from the community literacy
course group broke his personal computer or when Andy from the SL focal group went on sabbatical after
receiving tenure. Jacob’s laptop and Andy’s expertise had played central roles in the group composing
task, and their absence affected the group’s work. This dynamic interrelation reflects the connections
dynamism of the composing task and the cluster of assembled digital literacy resources encouraged members to change the cooperative roles they assumed and the way the group structured the composing task. Furthermore, I assert that changes in members’ roles and the task structure encouraged group members to take advantage of their access to the digital literacy resources other group members brought to the task. The opportunities for digital literacy development this circulation created guide the metacognitive framework I propose in the chapter’s conclusion for scaffolding classroom digital composing projects.

Moving between Cooperative and Collaborative Approaches to Group Digital Composing in a Community Literacy Course Group

The entire community literacy course was designed as an extended group project. As a result, the instructors devoted considerable attention early on to the groups’ formation and structure. At the second class meeting, the instructors placed students into groups and explained the literacy narrative collection task around which the class focused and the final project requirements. Sylvia, one of the course’s three instructors, led the class in a discussion of group work, asking them to consider “what it meant to work in a group, and the roles of different participants in the group, and how what you do affects everybody else in the group and affects the outcome of the project.” The instructors identified roles (group leader, technology expert, interview-scheduler, note-taker/paperwork manager\(^\text{67}\)) associated with the responsibilities individual members

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\(^67\) Group members filled out forms when they collected literacy narratives from Black church members. These forms explained interviewees’ rights, described the database where the interviews would be stored, and collected demographic information about the interviewees and thematic keywords about the
would take. As Sean McCarthy and Lauren Mitchell Nahas predict (145), asking students to assume specific roles performed an important community-building function in the community literacy class. The instructors stressed that groups were accountable to the partner churches for the stories they collected and how they represented interviewees. For students to take this responsibility seriously, they had to invest in the project. Students bought into the work of the class by taking on responsibilities associated with specific roles within their groups.

Sylvia, a former schoolteacher and principal with experience leading team-based professional development workshops, guided the groups through a series of team-building activities:

I gave them newspaper, masking tape, and scissors, and gave them a sheet with some basic instructions, and I wouldn’t tell them anything else. And they had, I believe it was eight minutes. And I played the William Tell Overture while they were working. And they had to build a church.

The comical group-building exercise Sylvia describes here (the impossible task of building a church out of newspaper in eight minutes to a frenetic soundtrack) exemplifies the kind of playful “community-building” activity Linda Myers-Breslin recommends for scaffolding classroom group work. She argues that group work should begin with low-stakes activities that allow group members to learn about and trust each other (168). For Myers-Breslin, groups need to develop this kind of familiarity before they are ready to begin making high-stakes choices about the nature of their project and how they will work together on it. Capitalizing on the introduction to group work the church-building activity provided, Sylvia asked each student to think about how they had participated in stories they told. To help structure the interviews and prepare for their final projects, group members also took written notes during the interviews to document interviewees’ spoken stories in written form.
the exercise, linking the low-stakes activity to students’ responsibilities for the group project:

we spent the next hour talking about exactly what it means to be a part of a group, things that you should do as a part of a group, and things that you shouldn’t do. How your attitude and your work ethic, and all of those things affect not only you, but the group that you’re working with, and ultimately, the entire class. And I was really surprised that there were college students who had never had anybody say to them, I had students who actually said “Nobody has ever said to me some of the things that we talked about.”

On the strength of this orientation to team-based project work, students chose their roles within the group and began to plan the first phase of their task: collecting literacy narratives from members of their partner churches.

The community literacy course instructors’ approach to scaffolding group work reflects the cooperative style of group composing Yancey and Spooner describe. Designating separate roles that distributed responsibilities among group members enabled the kind of individual assessment Bruffee associates with cooperative pedagogies. On the other hand, regardless of what role they assumed, all group members were expected to help conduct literacy narrative interviews and present their group’s final project at the end-of-term Community Sharing Night. So while the group’s digital composing task was not completely compartmentalized, the roles individual group members assumed encouraged them to contribute to the task in specific ways.

While Sylvia’s start-of-term introduction to group work emphasized individual roles with specific responsibilities, group members noted that some responsibilities shifted over the course of the task. They also commented on the “value” of the group in collaborative terms, specifically the extent to which the members were collectively able
to create a final project no individual member could have produced. Jacob, a member of
the community literacy course focal group (introduced in greater detail below), stated that

   Maybe it would have been easier if I had done it myself. But it wouldn’t
   be as good in the end. The quality would not have been there. […]
   Everybody had different parts that they brought to make the whole. It
   maybe would have been less stressful had I done it myself, but it would
   not have been the same thing. It would not have been the same product.

The groups shifted between cooperative and collaborative approaches to group
composing in response to changing demands over the course of the task. Group members
responded to these changes by drawing on different resources they accessed through
various family, peer, school, and professional patches to which they were connected. As
Bracewell and Witte argue, the literacy resources individual members contributed were
largely determined by their connection to patches outside the task. As was the case for the
foraging I describe in Chapter 2, the group members’ race, class, education, and
professional experience influenced the resources individual members contributed to the
group project. The variety of these resources accounts for the quality of the final project
Jacob argues for above.

*Stability and Flexibility of Group Member Roles*

While the first few weeks of the community literacy course included typical
classroom activities like discussions of readings and lecturing, the group project
dominated the course. Beginning the second week of the term, groups spent time in and
out of class preparing for, scheduling, and conducting interviews. During the second half
of the term, the groups shifted from collecting literacy narratives to preparing their final
multimodal projects (see Appendix D: Community Literacy Course Final Multimodal
Project). The focal group for the community literacy course whose work I analyze below
was one which other groups in the course identified as a “good” group, one that “gelled”
together. One member of another group commented that the focal group

seemed to come together so naturally, and so enthusiastically, [...] to be
able to say “This is where I fit.” And they were almost like cogs that fit
into a wheel [...] they were able to just, you know, sprocket and do all the
things, almost magically. You could see them coming to class, and they’d
sit and have their little confabs before the class or during the break.

This group’s success, signaled by classmates’ comments and by the instructors’ positive
assessment of their work, recommends it as a valuable site for studying how members’
connections to other patches affect 1) how digital composing groups structure their task
and 2) how responsibilities and resources within the task-based cluster change over the
course of the project. Table 14 introduces the members of the community literacy course
focal group:

Table 14: Members of the Community Literacy Course Focal Group

<table>
<thead>
<tr>
<th>Race</th>
<th>Educational/Professional Background</th>
<th>Role in Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlie</td>
<td>White High school teacher and Ph.D. student in the College of Education</td>
<td>Leader</td>
</tr>
<tr>
<td>Jackie68</td>
<td>Black Non-traditionally-aged undergraduate and full-time employee in the university registrar’s office</td>
<td>Group Secretary</td>
</tr>
<tr>
<td>Jacob</td>
<td>White Traditionally-aged undergraduate African and African American Studies major</td>
<td>Technology Expert</td>
</tr>
<tr>
<td>Jasmin69</td>
<td>Black Traditionally-aged undergraduate</td>
<td></td>
</tr>
</tbody>
</table>

68 Only Charlie and Jacob participated fully in my study by filling out a questionnaire (including
demographic information) and doing an individual interview with me. The information included in this
chart about Jasmin comes from a publicly-available literacy narrative she recorded during the course.
Jackie agreed to participate in the study but did not fill out a questionnaire or do an interview, so
information about her in this chart comes from comments she made during my classroom observations.
69 Charlie and Jacob mentioned Jackie’s role in the group in their interviews. They did not specify what
Jasmin’s role was.
In interviews, Jacob and Charlie described how roles were distributed among group members and the degree to which those roles remained stable over the course of the project. Charlie explained that roles naturally fell to different members, based on their skills and interests:

Julia: Everybody identified roles in the group they wanted to take on?
Charlie: Mhm.
Julia: And sort of they would be responsible for X? What did you end up with?
Charlie: Mine was just, I think, overall group. [both laugh] The, like, supervisor.
Julia: Did that default to you, because you were the graduate student?
Charlie: I think so.
Julia: Or did it just sort of make sense because of the way things worked out?
Charlie: I think it was because I was a graduate student, but also because I had done work in the neighborhood before. You know, I don’t I didn't really feel as if I was in a leadership position though, because we worked really well together, and we were able to delegate jobs to each other.
Julia: So that that distinction of being the boss of everyone didn’t necessarily stick around?
Charlie: No, no, no.
Julia: It didn’t really act out in practice.
Charlie: No […] whenever we needed to get [something] done, we would meet and talk. And we kept up with email. And we were pretty organized with trying to keep our stuff [interview paperwork] in the same spot, getting everything together for the final project. And it worked. We all worked pretty well together.

Here Charlie describes members’ responsibilities merging over the course of the project: as group leader, he did not feel like he was in charge of the group, but that all group members worked together to direct the group’s work via face-to-face meetings and email correspondence. Charlie suggests that it simply made sense for him to take on the role of the group leader because of his academic experience as a graduate student and because of his experience doing interviews in the neighborhood where the churches were located.
Charlie’s description of the nominal nature of his role as leader suggests that, in practice, the group handled its responsibilities on a more ad-hoc basis, delegating interview and documentation responsibilities to members based on availability. Jacob’s description illustrates this flexible distribution of responsibilities:

For interviews we would meet, and it would end up being me riding my bike to sit somewhere, somebody’s workplace. And they would drive me someplace so we could go do an interview. [...] We had a whole road map, essentially, of when we were making interviews. And we had this huge binder of all of the information. So we would pass it from one person to another. And they [other group members] were like “Okay Jacob, you’re going to go with Charlie in this interview,” and then I would transfer the packets [of interview paperwork]. So even though one person was designated as the secretarial person, we were always passing that information, the actual binder [of paperwork], around.

Instead of adhering strictly to the secretarial and scheduling roles Sylvia outlined, Jacob’s description reflects how the group (rather than Charlie acting as group leader) assigned responsibility for conducting and documenting interviews.

However, the “technology expert” responsibilities were more restricted and did not shift so fluidly among group members. Jacob volunteered to serve as the technology expert for the group, he explained, because shooting, editing, and uploading video came easily to him. He also felt that as a full-time undergraduate student, he had more time to spend working out technical issues than his group mates did:

Because in my group, most of the students were either...they just didn’t know how to use technology. Or they were older and busier, or they were grad students. So I had a little bit more lead-time than they did, so I worked on that. [...] It was like, “Well, I don't really know the technology.” So those people went towards one thing. And I was like “Well, I’m not perfect at technology, but I know it better than you. So I’ll learn it better.” So it was a really give-and-take sort of thing.
Jacob’s technology expert responsibilities were not shared casually among group members like Charlie’s leadership responsibilities were. In the context of a composing group where other responsibilities were more fluid, Jacob’s description of his experience as the group’s technology expert suggests the he (and Charlie) were primarily responsible for the digital aspects of the group’s composing task:

one of the other members of the group [Charlie] ended up doing a lot of the technology stuff as well, because, you know, he had access to other technology that I didn’t. […] But the technology ones [roles] are definitely limited to me and one of the other members of the group.

The group adhered more to the task’s cooperative structure in the multimodal digital composing work on the final project (described in more detail below) than in the group’s leadership. As a high school teacher, Charlie had access to a MacBook Pro laptop and high-end digital camera (the “technology stuff” Jacob refers to), which Charlie used regularly for projects with his own students.

What is also important to note here, however, is that while other group members did not assume multimodal digital composing responsibilities to the extent Jacob (and Charlie) did, they did learn how to work with video. Other group members came to Jacob to ask him to show them how to transfer files between cameras and computers or how to edit videos:

we all kind of came to this [class] with “We want to learn how to do this. I want to figure it out.” It was never like “Jacob, will you edit my videos?” It was like “Jacob, would you show me how to edit these videos?” […] And I was like, “Yeah, sure, we’ll [Jacob and Charlie] teach you how to do it.” That's the one thing about the class that was really, trying to give you a knowledge, rather than give you the presentation, give you the completed product.
So although Jacob and Charlie remained the group’s go-to technology experts, other members used their proximate expertise to access intellectual digital literacy resources that would allow the other members to do video work independently in the future. Jacob and Charlie functioned in their group as what Megan Finn calls “techne-mentors,” individuals who are defined as technology experts in a specific social context, people who friends, relatives, and acquaintances turn to for help with technology. Although Jacob was quick to point out that he did not consider himself a technology expert, his expertise relative to other group members and the facility he and Charlie developed with video editing during the course positioned them as techne-mentors. The techne-mentoring dynamic Jacob describes suggests one way that the cooperative structure of the group task facilitated the transfer of intellectual digital literacy resources between group members. By taking on the technology expert role, Jacob identified himself as the person his group members should seek out for help with their videos. Other group members took Jacob up on his implicit offer, suggesting how cooperatively-structured digital composing tasks can provide opportunities for students to accumulate new digital literacy resources.

The group’s tendency to shift between cooperatively separating duties and collaborating on them came up again in the second phase of their task, as they created their final project reporting on the literacy narratives they collected and the process of collecting them. They composed together collaboratively at group meetings, and drafted text cooperatively between meetings. The group also designated Jacob, as the technology expert, to compile their media-rich slideshow and written documents using group members’ individually-drafted content.
The early, framing stages of the final project were so interdependent that the group had to work on them collaboratively. Jacob explained that writing the introduction/framing questions for the final project and designing the slide template for its multimedia component could not be cooperatively divided among group members because

you have to discuss with somebody else, because all the parts of the project are so interrelated, that, you know, if I’m doing one part, it affects how somebody else would do another part. So it’s, you know, you have to, you know, while dividing up labor, the work, you have to, you have to really work together at the same time. So it’s a lot of simultaneous work.

Because the slide template design and research questions determined the form and content of the entire final project, the group collaborated on them (working together face-to-face in real time), rather than cooperating (working separately and asynchronously), engaging in Ede and Lunsford’s dialogic collaboration to negotiate the project’s form and content. This shift from cooperation to collaboration, and the shift back toward cooperation described below, demonstrates how the group cycled between different modes of group work.

The questions, introduction, and slide template produced during the group’s face-to-face meetings provided a structure within which members cooperatively created written and video content for their individual project sections. As Charlie explains:

together we had sat down and established our questions and what we found in common across the things [literacy narratives]. And not just the things we found in common across the interviews, but also things that kind of stood out. So we made sure we had all those clips ready to go.

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70 See Appendix D: Community Literacy Course Final Multimodal Project for a detailed explanation of the assignment components.
In addition to identifying and preparing the video clips, group members also divided responsibilities for drafting written content for the slides and accompanying documents. Jacob compiled the cooperatively-written text using the slide template, focusing questions, and introduction the group had composed collaboratively. He noted that Charlie’s suggestion to use cloud-based Google Docs (more on this below) made it easy to share cooperatively-written alphabetic texts:

I assembled it [the final project], as the technology person. [laughs] Put it all together. Just assembled the slides together. I was also in charge of certain sections of the presentations, the history section, so I was able to just cut and paste that from the documents I had written right into the PowerPoint. And then also, I took other people’s. With Google Docs it was so convenient. I was able to just go through different parts of what people had already written, you know, their experiences, and I was able to quickly summarize what their idea was and just take that and put that into the presentation. Even though I did put the PowerPoint together, it was work I was taking from what they've already done.

Here Jacob describes how he took written content drafted by individual members in the group’s Google Doc and copied/adapted it to the PowerPoint slideshow for their final project. The way Jacob characterizes compiling the group’s final project contrasts with his description of his role as the group’s technology expert. During the final project phase, he emphasizes that he compiled other members’ drafted texts. Describing his work as compiling casts Jacob as a craftsman, a term Candace Spigelman uses to describe group composing processes characterized by mechanical rather than creative work (46). Jacob’s emphasis on the role Google Docs played in assembling the final project suggests that it was easy for him to compile group members’ individually-drafted texts because they were writing within the frame the group developed together. Their collaboration
during the project planning phase facilitated the group’s cooperation during the drafting/compiling phase.

The combination of collaborative and cooperative work Jacob and Charlie describe during the final project phase of the course aligns with Sylvia’s observation that group members’ roles overlapped more and more as the term progressed. Furthermore, since some of the group roles—scheduling interviews and keeping interview records—tapered off as the focus of the course shifted from collecting literacy narratives to analyzing them, the second project phase provided an opportunity for group members to redefine their roles. Group members whose cooperative responsibilities related more to conducting literacy interviews shifted to 1) helping design the visual/conceptual framework for the final project and 2) independently drafting text for the final written report. As Rebecca Schoenike Nowacek and Kenna del Sol argue, although distinct roles can help groups start work on composing tasks, allowing these roles to shift as the task changes over time helps the group deal with challenges it faces (181). Over the course of the term, the community literacy group’s task shifted from interviewing community members to designing and producing their final project. The task’s different phases required different literacy resources, ranging from audio and video recording to written note-taking and essay writing to engaging with thematic readings and designing digital visual texts. Group members’ ability to compose alphabetic and multimodal texts enabled them to meet the task’s varied demands.

The fluid nature of group members’ roles as they worked on the composing task points to their ability to move recursively between cooperative and collaborative procedures in response to 1) the shifting demands of the composing task and 2) members’
accumulation of new digital literacy resources through the kind of techne-mentoring Jacob describes. The group’s recursive movement between cooperative and collaborative approaches is especially important. Neither mode is privileged over the other: the group shifts between cooperation and collaboration in response to the demands of different phases of the digital composing task. Responding to the changing nature of the task and individual members’ access to literacy resources to support it parallels McCarthy and Nahas’ argument that the roles members of digital composing groups adopt “emerge” through the social process of negotiating a shared task with group members (153) rather than by moving along a linear trajectory. Well-defined, self-contained activities (such as conducting individual interviews or drafting discreet sections of written text) allowed group members to work cooperatively. Large, foundational, interdependent activities (like planning the content of the final project and designing its multimodal slideshow) led group members to collaborate. The group’s ability to adapt its structure to the changing demands of the composing task points to members’ sophisticated understanding of the task, their vision for completing it, and their recognition of individual members’ contributions.

Questions about the Nature and Dynamics of Group Leadership

The guidance Charlie provided for the group, despite his sense that he did not really supervise, points to an important aspect of team-based project work Bracewell and Witte note: the influence that previous, concurrent, and future work in other patches can have on individuals’ roles and performance within professional working groups (546). Similar to the professional inequality Ede and Lunsford see extending from gendered office work into workplace writing groups, the different experiences individuals bring to
a group composing task can grant group members unequal access to cooperative group roles. In the focal group, access to accumulated resources positioned certain members as a good fit for certain roles, setting up the kind of hierarchical issues Ede and Lunsford warn against in cooperative composing.

In the community literacy course focal group, Charlie’s professional experience as a high school teacher (rather, perhaps, than his official designation as group leader) helped structure the way the group approached the interview and final project phases of their task. Charlie’s high school was located in the same neighborhood as were the group’s partner churches. Furthermore, prior to the community literacy course, Charlie had conducted classroom/community projects in which his students interviewed neighborhood residents. As a result, Jacob explained, Charlie had done this sort of work before with interviewing. [...] so he was kind of in charge of things and led things. So I think that led to, we were more comfortable working as a group, because we had, you know, “Okay, this guy’s got an idea of what we’re doing. He’s gone out to the community before. People know who he is.” So that helped out a lot.

Charlie’s experience conducting interviews and working with community members similar to the church members the group interviewed made his group members feel more comfortable going into their early interviews. This was a significant concern in light of the anxiety students in the class described feeling before their first interviews with church members. Nia, the leader of another group, explained that before her first interview I was a little nervous, [...] going out to churches and I really didn’t know what to expect. [...] it scared me at first, but then I was like “Okay, I can get past it.” And I did my first interview, hands sweating, feet clammy. I’m like “Oh my god, I’ve never dealt with, been in the church like that.”
Nia’s first-interview nerves illustrate the concerns many students from the community literacy course initially had about interviewing church members. In light of many students’ lack of experience with the Black church and/or with conducting interviews, the community familiarity and guidance Charlie offered his group smoothed their initial approach to the community literacy course composing task.

Charlie’s professional experience also shaped the guidance he offered during the final project phase. He suggested using Google Documents (Google Docs) to draft the essay portions of the final project, which would allow individual group members to write in a free, shared, cloud-based word processing application. Drafting in Google Docs

1) let group members refer back to the collaboratively-written introduction and research questions while drafting text for their individual sections and
2) made it easy for Jacob to pull from group members’ individually-written texts to compile the final project.

Charlie used Google Docs at his high school to plan lessons with colleagues for a team-taught interdisciplinary course and to collect/comment on students’ writing. In this way, Charlie’s professional experience composing with others in digital environments shaped how his group approached drafting the text for their final project. Charlie’s influence with regard to Google Docs is also significant in terms of techne-mentorship, since his group mates had never used Google Docs before. His suggestion therefore led them to compose in a new digital platform. Although anyone with Internet access can use Google Docs once they sign up for a free Google account, Charlie introduced the idea of using the application for their project, which became, in Jacob’s words, “like a third arm,” central to the group’s process of composing their final project.

71 See Appendix D: Community Literacy Course Final Multimodal Project for a detailed explanation of the components of the final project.
By emphasizing Charlie’s experience with interviewing and cloud-based
document sharing, I argue that his professional experience helped Charlie guide the
group’s approach to interviewing church members and working on their final project.
Further, I suggest that the success of his subtle direction derives from Charlie’s
professional and academic experience, illustrating how resources accumulate unequally
across spheres. Charlie’s professional status as a teacher and his academic background
(he had a Master’s of Education and was pursuing his doctorate in Education) are
themselves supported by the race, class, and gender privilege he enjoyed as a white,
middle-class man, a demographic well-represented among both graduate students and
teachers. And while men are a gender minority in the teaching profession, male teachers
have traditionally enjoyed high status within the field.72 I do not link Charlie’s leadership
role to his tacit (as opposed to overt) claims to authority in order to criticize him or to
argue that he exercised oppressive control over the group. Instead, I suggest that the
influence he collegially exerted over the shape and methods of the composing task was
underpinned by the experience he brought to the project. This experience was itself
facilitated by the racial, gender, class, and educational/professional privilege Charlie
enjoys.

72 The Council of Graduate Schools’ 2012 enrollment report shows that white men account for 38% of
graduate students. White women, the next-largest group, account for 25%. The National Center for
Education Statistics reports that while the teaching force is overwhelmingly white (83% in 2004 and 2008,
the most recent years for which statistics are available) it is increasingly female (76% in 2008) (Schools
and Staffing Survey). This means that male teachers like Charlie account for only 21% of teachers (Schools
and Staffing Survey). In their review of the changing demographics of the teaching profession, Richard
Ingersoll and Lisa Merrill suggest that the feminization of the teaching profession is happening at the high
school level, where, over the past 40 years, female teachers have entered what used to be a primarily
male workforce. Ingersoll and Merrill suggest that “given that women’s work has traditionally been held
in lower esteem (and been paid less) than male-dominated work, the feminization of the profession may
have unfortunate implications for the stature and status of teaching as an occupation,” pointing to long-
standing links between gender and power in the teaching profession specifically that I suggest were in
play in Charlie’s subtle guidance of the group.
This kind of sphere-crossing privilege is a persistent issue affecting group composing. As Irene Ward warns,

matters of difference among students, like class and gender, do produce uneven power relationships that authorize some members’ voices and tend to silence or ignore others’, making it difficult for all group members to engage in status-equal dialogue. […] It is naïve to think that the power imbalances evident in social relationships outside the classroom—imbalances based on gender, race, and class, for instance—can be nullified inside the classroom. (84-85)

The influence that “social relationships outside the classroom” exerted on patterns of leadership in the community literacy course are instructive. Nia, a Black, non-traditionally-aged undergraduate and mother of two who served as the leader of another group, described her leadership style as doling out tasks to the other undergraduates in her group (three young men of color) and then holding them accountable to the tasks they had agreed to perform. Nia emphasized her age and gender as factors influencing the leadership role she adopted in the group:

I was the sole woman in my group. And I just also happened to be the oldest, and…it was kind of, you have three boys, and you kind of just need to tell them what to do. They were very good at doing what they were told. And I think that helped a lot. You know, it wasn’t “Oh, I want to do this part. I want to do that part.” […] the other members, they said “Nia, just tell us what to do.” I said “That works for me. I can handle that.” So that’s how the team worked.

I contrast Charlie’s hands-off approach and Nia’s directive leadership style to suggest ways in which previous experience and perceived/performed identities affected how leaders interacted with other group members.73

73 At this point it would be useful to compare Charlie’s and Nia’s leadership styles and the approaches their groups took to the digital composing task. However, because only Nia participated from her group and only Charlie and Jacob (both white men) participated from their group, limitations in my data prevent me from pursuing further questions about the relationship between experience in other patches,
Within the cooperative task structure Sylvia and the other instructors created, the focal group flexibly shifted between distributing responsibilities to individual members according to designated roles and doling out responsibilities on an ad-hoc basis in response to the changing demands of the task. The group also used collaborative methods at a major turning point in the project where members worked together face-to-face rather than submitting cooperatively-prepared individual work. While the group’s adaptive distribution of responsibilities meant that some roles (the group secretary role, for example) were eventually taken on by all members, other roles remained stable. In the case of Jacob’s role as the technology expert, identifying himself as the go-to techne-mentor helped other group members take advantage of the digital literacy resources gathered around the project. Charlie’s role as the formal group leader and informal group guide, however, points to the ways in which experience in other patches (facilitated by race, class, and gender background) influences the roles group members assume. Group members’ experience in other patches also affected which roles they took up, how they enacted those roles, and how other group members responded to their actions, although not in the straightforward way Ede and Lunsford suggest when they map workplace hierarchies directly onto role-based composing groups. I will return in the chapter conclusion to these questions about inequality and role uptake.

**Techne-Mentoring and the Circulation of Intellectual Digital Literacy Resources in a Laptop Section Student Group**

While the community literacy class was focused around an extended group project which constituted the majority of students’ work in the course, composing groups significant factors like gender, race, age, and educational/professional status. I will return to some of these unanswered questions in Chapter 5 as areas for future research.
played a more conventional classroom role in the first-year writing laptop section. Although Kristy explained that students should see their group members as valuable resources for in-class work, they did not explicitly discuss methods for effective group work. As Sylvia’s comment about students’ lack of formal instruction in group work suggests, the informal, minimally structured approach Kristy took to group work is fairly common at State University and many other schools. The lack of explicit direction laptop section groups received in structuring their work seemed to encourage a collaborative approach to group composing work, since it avoided assigning members individual responsibilities in favor of encouraging peer interaction. However, as with the techne-mentoring and leadership responsibilities Jacob and Charlie assumed in the community literacy course group, accumulated digital literacy resources from other patches encouraged members of laptop section group to adopt fairly stable roles.

In classrooms where student groups work together on individual assignments, H. Brooke Hessler and Amy Rupiper Taggart suggest that emphasizing the products (rather than the process) of group composing tends to encourage a cooperative rather than collaborative approach (108). As Bruffee explains, the individual nature of assessment signals to students that group work will be evaluated individually, foregrounding cooperation rather than collaboration. My examination of group work in the laptop section is not a critique of Kristy’s pedagogy: her ambitious curriculum introduced students to composing in a variety of new digital environments and to the genres, conventions, and research that characterize academic argument. In this context, in-class group work served to promote conceptual mastery of course readings and guide students through a series of challenging composing activities in digital composing platforms. The
number of students who told Kristy at the end of the term that her course had been their favorite college class speaks to her success inspiring students to produce high quality work that they valued.

As Ede and Lunsford explain in their description of classroom writing groups, approaches to group work in composition classes run the gamut from large, term-long projects like the one in the second-level writing community literacy course to the kind of short, low-stakes activities that characterized group composing in the laptop course (124). Student groups in the laptop section frequently worked together in class on small activities designed to cultivate analytical and composing skills for the course’s major, individually-graded assignments, an alphabetic essay and a series of social media posts. As a result, the context for group work in the laptop section was quite different than in the community literacy course, in which developing a group workflow was essential. In the laptop section, conversely, group work was one context for classroom learning, but it did not receive explicit emphasis beyond the instructor’s explanation that working in stable groups would allow members to get to know each other personally and intellectually. Nor did Kristy directly assess groups’ composing process or products in students’ grades.

74 In-class participation (including participation in group activities) was not formally graded in the laptop section, as Bruffee recommends for collaborative group work pedagogies. Kristy did explain, however, that in-class participation in group work and other activities was usually indicative of overall performance in the class. One assignment (the Blog Response Team assignment, worth 5% of the course grade) had students work in “teams” to stimulate discussion on the class blog by posting on it and attempting to drive outside traffic to the blog. However, this assignment did not require students to actually coordinate their efforts as a group: each student was responsible for making 6 comments on classmates’ blog posts and making 2 attempts to bring outside visitors to the blog. The teams for the Blog Response Team assignment functioned primarily to divide the class into 3 groups of 8 students who took turns posting on and driving traffic to the blog in order to space out the online discussion they were attempting to stimulate.
**Group Leadership and Techne-Mentoring**

Where groups in the community literacy course were responsible for structuring their entire composing task, groups in the laptop section worked on defined in-class activities such as analyzing sample social media texts, synthesizing assigned readings, summarizing secondary sources, and workshopping assignment drafts. As noted above, the graded assignments students produced were all single-authored, but the brainstorming, drafting, and revision process Kristy used to scaffold these writing assignments made extensive use of in-class group work. Although most group work sessions were short (five to fifteen minutes), students in the laptop section sat with their groups beginning in the third week of the term and worked together during almost every subsequent class meeting. The familiarity and routines groups developed seemed to gradually create member roles similar to the ones designated formally at the outset of the community literacy course. The familiarity and patterns of interaction groups developed allowed members to identify and tap into each other’s digital literacy resources. These resources included content students had learned about during the course as well as resources and experience they had accumulated in other patches.

Similar to the subtle leadership role Charlie played in the community literacy course, two members of the focal group in the laptop section, Scott and Laura, functioned as leaders of the laptop section focal group. Table 15 introduces the group members:
Table 15: Members of Laptop Section Focal Group

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Race</th>
<th>International Student?</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dustin</td>
<td>Male</td>
<td>White</td>
<td>No</td>
<td>Regular</td>
</tr>
<tr>
<td>Jiao</td>
<td>Female</td>
<td>Asian</td>
<td>Yes</td>
<td>Sporadic</td>
</tr>
<tr>
<td>Laura</td>
<td>Female</td>
<td>White</td>
<td>No</td>
<td>Regular</td>
</tr>
<tr>
<td>Scott</td>
<td>Male</td>
<td>White</td>
<td>No</td>
<td>Regular</td>
</tr>
</tbody>
</table>

Here Scott describes the leadership dynamic of their group:

Scott: I mainly just talked to Laura because Dustin never really talked, and the other group mate, she never talks. What was her name?

Julia: Jiao.

Scott: Jiao. She never talked. She was really nice, but she never talked. Mainly it would be me and Laura. [...] Me and Laura kind of pushed people to do things. But there really wasn’t a need to lead, really. A lot of times I would tell, usually I would communicate to Dustin what he needs to do for something, if it’s group. [...] there was no really leader, per se. We just kind of, Laura would tell Jiao what to do, and we would come together. It wasn’t like…me and her [Laura] just kind of, worked with each other, trying to make the others work type thing.

As these comments suggest, Scott and Laura were the group members who initiated and guided group work during the activities Kristy set. As in the community literacy course group, although members’ past experience affected the resources they brought to the laptop section and the responsibilities they assumed, the group composing activities Kristy assigned provided opportunities for group members to acquire new digital literacy resources. The techne-mentorship I focus on here represents only a slice (although a

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75 Dustin and Jiao did not participate in my study. The information listed here about them is based on my observations of their in-class identity performance and self-disclosing comments they made during my classroom observations and to Kristy.

76 Scott’s dismissal of Jiao as quiet glosses over the fact that she was one of only three non-native English speakers in the class whose writing and speaking Kristy tried (mostly in vain) to encourage. The peripheral position Scott (and Laura) assign to Jiao points to the need for further work that examines how language and national origin (as well as the race, class, and gender considerations I discuss in this chapter) shape the structure of group composing tasks and members’ access to the group’s assembled literacy resources.
representative one) of students’ overall performance in the class, zeroing in on the digital literacy resources the group assembled. As a result, Scott’s technology expertise is foregrounded, and Laura’s leadership relating to writing and group cohesion receive less attention.

The group leadership Scott describes above often had to do with technical troubleshooting, similar to the techne-mentoring Jacob performed in the community literacy course group. Scott often worked with Laura to initiate or complete a composing activity, and they directed the other two group members, functioning as the group nucleus Scott describes. Because most group activities asked students to use their laptops, Scott’s role as techne-mentor put him in a position to guide the group’s work. Laura described a representative techne-mentoring occasion during an in-class activity:

Laura: I asked Google one time how to invert my colors, because Kristy was talking about that one day. […] I looked it up on Google and it was like “Oh, here’s what you do.” So I did that and it inverted all the colors. Well, then I got freaked out, because I was like “I don’t know how to do it back. I don't know how to get all my color back.” And then Scott helped me get them back. […]

Julia: So how come you asked Scott to put it back? Just because he was there?

Laura: Yeah, just because he was there. […] He was close and I was like “Scott, I changed the colors and I don’t know what I did! And I don’t know how to get it back!” And I would have re-Google it, but then I was like “Ah!” Google even scared me, because…

Julia: Oh, you’re right, because it looks all weird.

Laura: Yeah, because it looks all weird. And I was like “Oh my goodness, I must have done something wrong!” So he helped me, and he got it all back.

Laura tried out one the power-saving strategies Kristy suggested to extend the life of a laptop battery. However, once she had inverted her display colors, the familiar interface looked so different that she could not figure out how to restore her laptop’s original
settings. Sitting alongside Laura, Scott used his greater familiarity with operating system and software modification (discussed below) to help Laura return her display to normal.

Like Charlie’s subtle leadership, the kind of small, casual techne-mentorship Scott frequently performed had important implications for the group’s work. During the laptop section’s final peer review workshop (described in detail in Chapter 4), each group had to decide how to digitally circulate members’ drafts and feedback. Kristy asked the class to suggest options for groups to consider, and students recommended email, Storify, and the course management system discussion board. Scott suggested using Join.me, a free screen-sharing program Kristy had mentioned in class a few weeks earlier. When the groups began working together, Scott’s group downloaded Join.me on their laptops and began experimenting with it to view Laura’s draft:

Scott: That is some slick shit. You can take control [of the document]. Press request control.
Laura: That is so cool.

Scott suggested using Join.me, and, as in Charlie’s case, Scott’s group mates took his advice. As he explains, this kind of techne-mentorship and general direction of group work overlapped considerably:

Scott: In our group I was always helping them out, like they would, a lot of them would be so slow. I’m like “Just download CCleaner.” It will save your computer.” And then another one was like, everybody always whines about YouTube ads. I’m like, “Get Mozilla [Firefox] or some other non-Internet Explorer and get

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77 Storify is a social network service where people use content posted on other social media sites (Twitter, Facebook, Instagram, YouTube, et cetera) to create “stories,” arranging and annotating this content to put their own spin on the discussion (“Guided Tour,” “Storify”). Laptop section students used Storify to complete an assignment midway through the term that asked them to research how their research paper topic was being discussed in social media.

78 CCleaner is a free, downloaded application that deletes unused files and cookies from a computer’s hard drive, which helps it run faster (“CCleaner”).
Adblock. 79 You’ll never see another ad in your life when you’ve got a thing playing.” It’s just little stuff that you figure out that you figure out over time that it helps people. Just daily life things, I guess.

[...]
Julia: You guys did a lot of document sharing. You know, people would write a paragraph, before class, and you’d share around. And I had asked you guys, how you did that sharing, and you said that you would email each other the attachments, or you would use that Join.me program that Kristy talked about.
Scott: Yeah.
Julia: How did you sort of decide how you would do group work? Who would go first, or how you would share things? Or do you remember how those kinds of things worked?
Scott: It was more just kind of like a random thing. Like “I’ll go first. Do you want to go first?” type thing. That’s really all it was.

As in the community literacy course, members with accumulated digital literacy resources could casually suggest communication media or group composing processes that their group members readily accepted. From Scott’s perspective, group members simply took turns and exchanged material in the simplest and most logical manner. However, Scott’s sense that decisions about turn-taking and communication were straightforward and harmonious suggests that other group members accepted Scott’s direction and advice, deferring to him as the group’s procedural leader.

In light of the close relationship between group leadership and technology expertise in the laptop section, Kristy’s role and digital literacy goals for the course are also important to consider. While she did not devote class time to discussing group work like Sylvia did in the community literacy course, Kristy did engage in valuable modeling activities like the ones Gere recommends for scaffolding small group activities in writing classrooms (Writing 109). Kristy often used her own computer to demonstrate how

79 Adblock is a free browser add-on that blocks “flashy” banner and pop-up ads on websites and social networking sites, disables tracking software, and directs users away from phishing domains (“Adblock Plus—Features”).
students could manage their laptops as digital composing environments, displaying her screen on the overhead projector to show how to divide screen real estate between multiple windows or install a free application. In addition to modeling how customize a laptop, Kristy also encouraged students to participate in developing strategies for technological trouble-shooting, facilitating ad-hoc classroom activities that called on students to techne-mentor each other. For example, when several students had trouble reading differently-oriented .pdf pages in an online course reading, Kristy asked the rest of the class how they dealt with the sideways pages, which functioned as a lesson on the kind of foraging practices I describe in Chapter 2:

- Some students reported changing operating system settings to rotate their entire laptop display
- Some students reported using a .pdf viewing program to rotate just the individual .pdf pages
- One student reported turning her entire laptop on its side to read the sideways pages (pictured in Figure 10 below), which several classmates complimented as “Good” and “Cool.”

Kristy responded positively to all these solutions, explaining that this kind of problem-solving was something students would probably need to deal with occasionally in the course. Kristy modeled and encouraged this kind of creative, open-ended problem solving, suggesting that when Scott engaged in similar actions in his group, the trouble-shooting intellectual digital literacy resources he brought in from other patches (described below) were positioned as appropriate and relevant within Kristy’s pedagogy.
Scott also engaged in instructor-aided troubleshooting of other students’ digital composing environments. Doing this aligned Scott directly with the kind of laptop maintenance/customization Kristy encouraged. For example, during a group activity midway through the term, Kristy noticed that another student’s laptop was running slowly and suggested that the student, Heather, consider defragmenting her hard drive:

Heather: What’s that?
Julia: It reorganizes files so they’re stored more efficiently, so they can be accessed faster, which makes the computer run faster.

Scott: There’s a program called Smart Defrag that does that all the time.

Kristy: Defragging can take a long time if you never done it before.

Laura: What’s it called?

Scott: Smart Defrag. It runs constantly in the background.

Here Scott joins a conversation Kristy initiated, suggesting a program to help Heather’s laptop run better and positioning himself alongside Kristy and me. This incident, in which Scott aligns himself with Kristy and me as instructors by techne-mentoring a student in another group, suggests how the digital literacy resources he brought to the course allowed Scott to adopt the kind of technological leadership role Kristy often performed.

Transferring Accumulated Digital Literacy Resources across Patches

The techne-mentoring that underpinned Laura and Scott’s working relationship was part of both students’ practice of informal digital literacy learning. Their habits of informal digital literacy accumulation extended across past, present, and future digital composing activities in family, school, and peer patches. Scott described accumulating abstract and concrete intellectual digital literacy resources from his own techne-mentors before coming to college. Laura, who characterized herself as benefitting from Scott’s techne-mentorship, described how, after the laptop course ended, she began techne-mentoring her own friends.

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80 Kristy introduced me as a fellow writing instructor conducting research in her classroom. I did not formally offer laptop section students my tech support like I did to students in the community literacy course. However, as this incident illustrates, I interacted with Kristy and her students as a techne-mentoring participant observer when the opportunity presented itself.
Because Scott’s techne-mentoring so influenced his group’s in-class composing work, I asked him how he developed his computer expertise. He highlighted the influence his half-brother and a friend had on Scott’s long-standing interest in computers:

Scott:  My half-brother, he works on computers for a living, and he showed me a lot of stuff on how to use them and take care of them, the anti-virus, all the different things you should run annually or whatever. And it’s really helpful. […] He does help me on some things, but it was more of like my own time, honestly. I think I’ve learned more on my own than anything. He just helped me with a few little things. He got me a little more inspired, but it wasn’t like he helped me that much. It was just Google and messing around with the computer. I also had a friend who liked to mess with computers, so he helped me with some stuff, like take it apart and put new stuff in it.

Julia:  Oh, so you’re talking about hardware modification as well.
Scott:  I’ve done that too, simple stuff like add a graphics card. Put new memory in it. Something simple, not a full build.

As Scott emphasizes here, his half-brother and friend modeled attitudes toward computer use, similar to the one Kristy performed in class. Following their example, Scott foraged for digital literacy resources like the participants in Chapter 2 (“just Google and messing around with the computer”) in the casual manner he picked up from his digital literacy sponsors. The sponsorship his half-brother and friend provided in family and peer patches provided Scott with both abstract and concrete intellectual digital literacy resources, leading him toward a general interest in “messing around” with computers as well as sharing specific knowledge about hardware modification. In the laptop section, Scott continued to embrace these sponsors’ (as well as Kristy’s) view of computer as material digital literacy resources. And in the laptop section, Scott did not stop at seeking out new software to customize the operating system on his own laptop. He also shared these material and intellectual resources with other students, particularly his group mate Laura.
To argue that being in the laptop section group with Scott was a life-changing experience for Laura would wildly overstate his influence. However, Laura’s comments about her computer use during the following term suggest that she accumulated some new digital literacy resources based on her experience working with Scott on group composing tasks:

Laura: Well, Scott knows all the newest stuff. I don’t know where he came from, but he knows all the newest stuff. So coming from never having the newest stuff because my school didn’t, or I didn’t really know it was out there, to a guy who knows everything that’s new on the Internet, I was like “Okay.” I think he actually kind of turned me on to more of the free programs, or like “This program will do this for you, or this program will do this for you.” He turned that on, he helped me with that. And he was like “Oh, well, you need to do that. And here’s how you do it.” So it helped. And we usually talked about that, because he just did a really good job. He’d explain everything, and explain why I needed it. And I was like “Okay.”

Julia: With this sort of experimenting with new programs or trying them out, I’m always interested in how people get to them. And so what you’re talking about is interesting, where he’s like “Oh, you want to do this. I recommend this program, and here's why.” And you’re like “That is an excellent referral. Thank you.”

Laura: Yeah, “That is a good thing.” And he helped me a lot with that. Like whenever I wasn’t getting something and my computer was not being smart, he was like “Oh, well here’s what it's doing. And this will fix it.” And so I was like “OK.”

Laura’s account highlights how techne-mentoring in the form of point-of-need troubleshooting can facilitate intellectual digital literacy resource accumulation. Her

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Elsewhere in her interview, Laura contrasted the technology available at home and school in the rural area she grew up in to the technology she had access to at State University. As her comments here indicate, she identified Scott as someone who came to college with considerably more technology expertise than she had and took advantage of his resources during class meetings. Interestingly, although Laura associated the relative scarcity of material and intellectual digital literacy resources in her hometown with its rural location, Scott also came from a rural area (in a different state). Scott’s and Laura’s different pre-college access to technology suggests that technology access depends on more than just urban development and infrastructure, pointing to the importance of cultural factors (including gender expectations and technology I discuss below).
emphasis on the extent to which Scott would explain a problem or describe the benefits of a program he recommended suggests that his attitude was what made his help so valuable, in contrast to what another study participant called the “Nick Burns” style of digital literacy instruction.82 As Laura indicates above, she accumulated new intellectual digital literacy resources from Scott in the forms of specific troubleshooting techniques and attitudes toward her computer as a digital composing environment.

What is especially interesting in Laura’s case is that, like Scott, she seems to have gone from techne-mentee to techne-mentor. When I asked Laura if she had used any of the new programs or composing platforms she learned about in the laptop section since the course ended, she described trying to get her current study partners to use Join.me to work together remotely:

Laura: Join.me is hard because people are iffy about downloading it, because you do have to download the link. And they’re iffy about that, because they don’t know if they want to download it or if it’s even going to be useful. I think it’s useful because I was like “You can do this on it, and it’s really cool. And you can do this, you can go and look stuff up, and just minimize it and you don’t have to keep looking at it, but you can see what’s on my screen and I can pause my screen so you can keep looking at it.” I was like “It’s really cool that way.” And it’s just hard to get people to trust it, I guess. They’re like “I don’t know...”

Julia: So who have you been trying to convert to Join.me?
Laura: One of my really good friends, we’re both in Bio[logy] together. I was like “Oh, you know, you should try it. We can both work on Bio homework.” I was like “You can see an answer that I put and be like ‘Oh, I don’t like that answer, I think you got it wrong,’ and just type it in the way you want it to go and show me. And then I can look it up, and be like ‘Oh, okay.’” And I was like “That would be pretty cool.” And she was like “I don’t know...”

82 Nick Burns-style computer assistance refers to the recurring Saturday Night Live sketch “Nick Burns, Your Company’s Computer Guy” (starring Jimmy Fallon, on air 1999-2001). This sketch parodied the stereotype of the rude, socially inept technical support worker by having Fallon’s character berate other sketch characters in a whiny, nasal voice as he fixed their computers without explaining what caused their computer problems.
Laura’s attempt to use Join.me for group digital composing work in other courses suggests that she continued using this software, even modifying her use of it to fit a different composing task. She also seemed to be techne-mentoring to her study partner by recommending a useful new program and explaining its benefits like Scott did when he techne-mentored her in the laptop section. Although Laura did not enjoy the same success Scott did (she had not yet convinced her friend to install Join.me), the difference between the tasks (problem sets in a self-sponsored study group versus discussing essay drafts in an instructor-assigned classroom group) makes comparison difficult. I would like to speculate, however, that the difference in the outcome may have been shaped by Scott’s and Laura’s different ethos as techne-mentors. Scott came into the laptop section as a technology expert (relative to his group mates), while Laura did not indicate that her social and academic relationship with her friend and biology partner has emphasized Laura’s technological expertise.

The fact that Laura’s friend does not identify her as a local technology expert may have to do with gender as well as nascent (versus established) expertise. Scott’s sponsorship by his half-brother and friend follows a familiar narrative of boys’ interest in and homosocial bonding around computers (see Herbst, Kirtley, Jenkins and Cassell). Scott’s techne-mentorship of Laura also aligns with the common trope of men serving as technological leaders and experts who pass digital literacy resources on to women (see Hill, Corbett, and Rose). Without reading too much in to Laura’s friend’s reluctance to use Join.me, the fact that she did not agree to Laura’s suggestion hints that the role of the techne-mentor may not be accessible to individuals whose gender (or race, age, educational background, et cetera) positions them as a stereotypical non-expert.
Although Finn uses examples of female (as well as male) techne-mentors to illustrate the concept, her case study individuals arrived at college with considerable digital literacy resources and were immediately identified as experts. Some had also served as techne-mentors to friends and family back home, meaning that they had experience assuming the role of the resident technology expert. Laura’s experience of trying to share Join.me with a friend hints that it may be more difficult for young women like her to become techne-mentors. Laura’s transition from techne-mentee to -mentor is an isolated example in my study. But her experience raises important questions about the possible disconnect between developing digital literacy and having this development recognized by peers (and possibly teachers as well). I return to the nature of techne-mentorship in the conclusion of this chapter and discuss the issues Laura’s experience raises as a direction for further research in Chapter 5.

The relationship between attitudes toward digital literacy resource accumulation and group digital composing tasks that characterized the laptop section led to a group dynamic shaped by techne-mentorship. As Scott’s experience suggests, the ability to techne-mentor conferred leadership authority on group members. In the laptop course, accumulated digital literacy resources significantly impacted group members’ ability to techne-mentor: Scott’s long-standing self- and peer-sponsored digital literacy accumulation gave him a reputation for expertise that supported his subtle direction of group composing activities. Furthermore, as Laura’s experience suggests, the digital composing attitudes that characterize techne-mentoring can circulate among group members and shape future composing tasks. However, the relationship between accumulated digital literacy resources and group leadership may vary with the perceived
relationship between the techne-mentor and the resource, possibly shaped, in Laura’s case, by her gender and the novelty of her expertise.

**Strategic Cooperation and Collaboration in a Scholarly Composing Group**

Where the students in the first two case studies had never met before the course they took together and needed to negotiate roles and responsibilities for their shared task while getting to know one another personally and intellectually, the groups of coauthors who contributed exhibits to the *Stories about Literacy (SL)* collection already knew each another when they proposed their projects to the collection editors. Contributors’ prior experience working with colleagues on research, teaching, and administrative projects meant that they approached their digital composing task familiar with the structural features of long-term group projects. As was the case for student group members, however, the roles members of the *SL* focal group assumed were strongly influenced by their previous digital composing experience. As faculty members in a rhetoric and writing program who assign group work in their classes and have coauthored scholarship, curricula, and grant applications, the members of the *SL* focal group approached their task with considerable group composing experience. However, as discussed below, while some group members had experience publishing digital scholarship, others had little or no background in digital composing. This uneven distribution of digital literacy resources within the group encouraged members to adopt cooperative approaches to creating their collection exhibit. Group members also collaborated at key stages of the composing task, when members’ digital literacy resources overlapped or when the group needed to evaluate an exhibit draft. The process the *SL* coauthors used to compose their exhibit and
the way they divided up the work paralleled the student groups’ designation of certain members as technology experts. However,

- the extent to which involvement in the SL exhibit evolved out of previous projects and ongoing professional commitments and
- the relationship group members saw between their work on the exhibit and future professional projects

differentiate the SL group’s composing task from those of the two student groups.

The Impact of Continuity between Past and Present Digital Group Composing Tasks

The SL group differed significantly from the student groups discussed above by virtue of being self-selected and self-sponsored, a consideration Spigelman emphasizes in her work on student and professional writing groups (112-113). Unlike the teacher-assembled student groups, Andy, Carolyn, Jim, Martin, and Tony chose to propose an exhibit for the collection and to work together on it. The voluntary nature of their task was shaped by 1) their university conditions of employment and 2) the colleagues they worked with. As Carolyn suggests when describing the group’s methods of cooperation and collaboration during the drafting and revision process (detailed below), the makeup of the group was shaped not just by their shared interests, but also by their proximity as colleagues working in a writing and rhetoric department. Furthermore, as Jim explained, the choice to submit a proposal to the collection was motivated for him, in particular, by an assistant professor’s need to publish:

Jim: This is my tenure year. So every activity that I’m involved in, I have to kind of try to find a research outlet.
Julia: Right, it all needs to count.
Jim: Yeah, right, right.

The choice to participate in the SL collection can be seen as shaped by the “publish or perish” working conditions of academic life. Both the self-sponsored nature of the project
and the durability of the professional patch from which the coauthors are drawn
distinguish this team-based composing project from the student tasks in the other case
studies.

Carolyn, Tony, Jim, Andy, and Martin had worked together on projects in the
past, which led them to propose a coauthored exhibit for the *SL* collection. Both their
previous and current projects grew out of shared scholarly and teaching interests they
developed while working in the same department. Table 16 describes the *SL* focal
group’s departmental positions:

Table 16: Departmental Positions of *SL* Group Members

<table>
<thead>
<tr>
<th>Member</th>
<th>Position</th>
</tr>
</thead>
</table>
| Andy   | Assistant/associate professor
| Carolyn| Long-term writing instructor and director of local National Writing Project site
| Jim    | Assistant professor
| Martin | Writing instructor, graduate student
| Tony   | Long-term writing instructor and Director of Composition

The group’s *SL* exhibit grew out of ongoing research, teaching, and administrative
projects, the most recent of which are illustrated in Figure 11 below:

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83 Only Carolyn, Jim, and Tony participated fully in my study. Martin agreed to participate but never
completed a questionnaire or interview, and Andy declined to participate. As a result, the information I
have about Andy and Martin is limited and indirect. The data I include about them here comes from
Carolyn’s, Jim’s, and Tony’s responses to my questionnaire and interview questions.

84 Andy successfully underwent tenure review during the year the group spent working on the project.
Carolyn explained that she and Jim had worked together to collect student literacy narratives the year before they proposed the exhibit, which provided the inspiration and primary source material for the project. Similarly, Jim described how he and Andy worked together on the exhibit design according to the habits they had developed while coauthoring previous digital publications and developing curriculum for the department’s technical writing program. Jim also explained that Tony, Martin, and Carolyn’s involvement in the exhibit grew out of a previous assessment documentary project:

The people who slotted in [to the exhibit composing group] were participants on a documentary that we made about our first-year writing program. […] So we all worked on that, because Tony was the Director of Composition, and Carolyn’s the Director of the National Writing Project, and Martin was one of our really good graduate students who wrote his Master’s thesis about composition. That’s kind of how it was, off of another project.

As Jim explains here, the *SL* exhibit represented one project in a trajectory of professional group composing work supported by long-standing connections between departmental colleagues. The reappearance of the same people and research/teaching
concerns across multiple projects in Figure 11 speaks to the way self-sponsored groups
shift and reform around related issues and shared locations. They create a series of linked
clusters of literacy resources over time, connected by grouping and regrouping colleagues
and their accumulated literacy resources across successive tasks. This continuity between
projects and participants also points to the mixture of goal-oriented behavior (desire for
professional advancement) and serendipitous social ties (working alongside colleagues
with similar interests) that underpinned this group’s digital composing task.

*Dividing and Consolidating Composing Work among SL Group Coauthors: Scholarly
Cooperative and Collaborative Composing in Action*

Like the student groups described above, the SL coauthors divided responsibilities
for their composing task. In interviews, Carolyn, Jim, and Tony described the following
division of responsibilities during the exhibit’s initial:
Table 17: SL Group Members’ Responsibilities during Exhibit Drafting Stage

| Andy            | Developed exhibit canvas/visual design for Prezi\(^{85}\)  
|                 | “Translated” group’s compiled written text into format/language appropriate for insertion into Prezi document (with Jim)  
|                 | Inserted written exhibit text and video clips into Prezi document  
| Carolyn         | Wrote one body section about one focal literacy narrative  
| Jim             | Selected guiding theoretical articles  
|                 | Wrote exhibit’s introductory and concluding text  
|                 | Worked with Carolyn, Martin, and Tony to combine their individually-written sections into a coherent document  
|                 | “Translated” group’s compiled written text into format/language appropriate for insertion into Prezi document (with Andy)  
|                 | Created and captioned clips from literacy narrative videos  
| Martin          | Wrote one body section about one focal literacy narrative  
| Tony            | Wrote one body section about one focal literacy narrative  

As the group members with digital composing experience, Jim (and Andy) assembled the exhibit in its multimodal form, including written text, images, and video clips. Jim described how he worked alone and with Andy to assemble the group’s exhibit:

> I took the Word [documents from Carolyn, Martin, and Tony] and basically made the whole [draws a box shape in the air] work like a paper, what we might send off to a sort of traditional journal. And then Andy and I sat down together with that big Word file that was very…the trick is the transitions. The trick is when you’ve got an academic paper like that, and you’re trying to put it into a Prezi, how do you make it…how do you get rid of those word transitions and make it a visual transition? And so, I don’t know if we did that effectively, but we tried to pull out word transitions, and make it sort of, at least the movements, kind of somehow substitute for those. So we ended up breaking that traditional academic paper into chunks.

Moving the cooperatively-written alphabetic text into the exhibit’s multimodal format also required some video production work. Carolyn, Martin, and Tony incorporated

\(^{85}\) The SL coauthors created their exhibit using Prezi, an audiovisual composing platform that describes itself as “a cloud-based presentation software that opens up a new world between whiteboards and slides. The zoomable canvas makes it fun to explore ideas and the connections between them. The result: visually captivating presentations that lead your audience down a path of discovery” (“About Prezi”).
content from the narratives they analyzed using quotations from the video transcripts, as in a print publication. Part of the multimodal translation work Jim did was to match the quotations Carolyn, Martin, and Tony cited to their corresponding video segments and create clips excerpting those segments. The editors also wanted video included in the exhibits captioned to improve the collection’s accessibility, and so Jim captioned the group’s video clips as well.

Distributing work according to group members’ accumulated digital literacy resources during the exhibit-drafting stage suggests that the SL group took an efficient cooperative approach to their digital composing task. However, as in the student groups, work on the exhibit also included collaborative activities, during which coauthors without digital composing experience were invited to participate in the design process. Carolyn explained that

we looked at it [drafts of the exhibit Prezi], and then maybe we had a question or two. I mean, there was some back and forth, there was some process that went on there. It wasn’t just like, “Here’s a step and now we’re done, we go to this.” You know, it’s a little give and take.

She characterized her feedback on the exhibit’s visual design as deriving from her teaching experience assessing, rather than producing, multimodal digital texts:

I would make a distinction for you: I think I’m pretty good at design. I just don’t have all the technical or digital knowledge that some of these guys [Andy and Jim] do. I’m not trying to make too fine a point of it, but […] I concede that I could not have conceived of this that Andy did, because I didn’t really know it was a possibility. […] I sometimes hear people say “Oh, well, teachers are afraid to do some of these things, because they don’t know how to do them themselves.” But I’m not, because […] I trust that they [students] are able to do these things, and sometimes I ask them “Now, I’m not going to judge how technically expert you are, but where you are now. When you do this assignment, push yourself a little further, and then write a little something, like a little reflective piece or something,
to convince me that you did that.” And so I’m not at all unfamiliar with my students doing multimodal things.

Carolyn drew on her experience assessing student digital work to comment on Jim (and Andy’s) design. Her comments to the group’s internal design evaluation demonstrate how digital literacy resources that members accumulated in other (related) patches allowed them to contribute to the exhibit. Carolyn’s design feedback and the recursive feedback “process” she describes illustrate how the digital literacy resources group members brought to the task facilitated collaboration as well as cooperation.

Group members’ involvement in developing the project design varied, however, according to their experience with and interest in multimodal composing. Tony describes a different response to Jim (and Andy’s) invitation to review the exhibit Prezi:

they showed us these things at different stages…we had the opportunity of giving them feedback. They asked for our feedback. I just don’t remember that we gave them very extensive feedback. We just did point and appreciate. Because I’d never seen Prezi before, and I was sort of “Golly, will you look at that?” kind of thing. [Tony and Julia laugh]

This self-sponsored composing group cooperatively allocated responsibilities for contributing content and design ideas to individual members according to their expertise and interests. While Carolyn’s experience assessing multimodal student work encouraged her to collaborate with Jim and Andy to refine the exhibit design, Tony’s lack of familiarity with digital composing (suggested by his jocular “golly” comment about his lack of familiarity with Prezi) inclined him to view the design with a neutrally appreciative, rather than critical, eye.

While Carolyn helped revise the exhibit’s visual design, Jim (and Andy) worked together to develop the design from scratch. The exhibit’s theoretical approach used Lev
Vygotsky’s work on scaffolding literacy development, which provided the governing visual metaphor for Andy and Jim’s design.\textsuperscript{86} Jim explained that “we were into scaffolding, obviously, for our piece. And we wanted to do something that had some kind of lattice work in it. And so that’s why we chose the background graphic of the lattice work,” creating a canvas that visually represented the exhibit’s theoretical approach. Jim described how he (and Andy), as the group’s technology experts, shared digital composing responsibilities according to the division of labor they had established during previous projects:\textsuperscript{87}

we sort of fell into the same kind of front-end/back-end role. And by back, he did a lot of the user-interface stuff, and I did a lot of the database stuff... And we both have, I’ve got a degree in MIS [management information systems], and he’s got a lot of experience building web applications. [...] The way we work together is, as far as scholarship goes, I’ve always felt more of the pressure of getting publications off about certain things. And he’s kind of a dreamer [...] he’s happy to do a lot of the technical work, whereas I do the IRB [Institutional Review Board] stuff. When we do the studies, I’m the one who sort of arranges all that. And then I do a fair share of the software work too. But it’s just kind of a difference in perspective. And it’s always been that way from the point of our research work.

In the case of the SL exhibit, Jim’s “back-end” work meant that he handled the initial planning responsibilities, worked with the other three coauthors on the written text, and wrote an introduction and conclusion that framed the exhibit and linked together the body

\textsuperscript{86}Prezi composers create a canvas that serves as the background for their document, in which they embed alphabetic text, images, and videos. The canvas provides a governing visual metaphor for the document, as Jim describes here. Prezi viewers move through the document by panning across the canvas and zooming in and out to see elements embedded in the canvas at various sizes. See one of the company’s featured Prezis—“A prezi for David Byrne amongst others”—for an example of Prezi’s interface and dynamic, multimodal affordances.

\textsuperscript{87}Jim and Andy have worked together on several software development projects and digital publications over the past several years. At the time I interviewed Jim, for example, they were building a learning application designed to help students understand academic discourse by representing scholarly conversations in a dialog tree/social media exchange format.
sections. As Jim explains, Andy created the “front-end” of the Prezi viewers would navigate through. They circulated the Prezi draft to the other coauthors, got feedback from Carolyn, and submitted the exhibit to the collection editors.

Prezi’s panning and zooming navigation allowed Jim (and Andy) to underscore the exhibit’s argument using latticework as a visual motif. But their choice to compose in Prezi was also a strategic one that took into account the distribution of digital media production experience in the group. Aware that as the group’s resident digital media scholars, he and Andy would be responsible for producing the digital exhibit, Jim explained that

one of our concerns was not to do too much new development, with respect to anything interesting. Because my colleague Andy and I are really pretty good at Web stuff. But we also have to be real careful about development time, because we build a lot of from-scratch products. And so our goal in using Prezi was “OK, well this could be a quick hit.” […] Forethought was “Prezi’s a good platform because we’re familiar with it, we can get our lattice structure in there.”

Jim (and Andy’s) choice to delegate development work to Prezi took into account their status as the digital composing experts not only in their group but in their whole department, and drew on material digital literacy resources located in the Prezi platform. Delegating composing work to an application like Prezi is another example of the group’s cooperative approach to their composing task. By choosing to compose in Prezi, Jim (and Andy) defined their roles as content composers, not software developers.

As the SL exhibit project moved from the drafting/initial submission phase to the final revision phase, the distribution of work shifted again. As Jim explains, when it came time to revise their exhibit in response to feedback from the collection editors,
Jim: Andy pretty much dropped off. I think when we were working on it he might have been in his tenure year. Because he went up and then I was the Prezi guy and the text guy and whatever. […] we [Jim, Carolyn, Tony, and Martin] had a meeting, and we looked at it [the editors’ feedback]. And I asked if they had anything that they wanted to give me with respect to those changes. […] People had kind of moved on. They were sort like “No, this looks good. This looks good.”

Julia: Like “Whatever you think is best.”

Jim: Right. I’m not saying anything against them. It’s just a very practical concern. Because when you’ve got a single author, like for an article, there’s one skin in the game and you have to make the revisions. But when there are multiple authors, then I think there’s a thought that “Well, he’ll take care of it.”

With Andy gone on sabbatical after receiving tenure, Jim was the sole technology expert in the SL group, and he became “the Prezi guy and the text guy” who was responsible for revising the exhibit’s design and content. The group’s pattern of composing shifted at the revision stage from distributed cooperation to a primary author working with consultants. Jim took responsibility for revising his group’s exhibit because he could, unlike the remaining three coauthors who had no experience with Prezi. The nature of the editors’ feedback also affected Jim’s ability to step in as primary author at the revising stage:

our content seemed to be real clean to them. They didn’t have a lot of real…you know, they weren’t knitting at our scholarship. […] a lot of what it was was “How can each of these little chunks mean better, or mean in the way we’re trying to intend.”

The revisions were relatively minor, which restricted the scope of the revision phase and made it possible for Jim to make the necessary changes while consulting only minimally with the other coauthors. As Carolyn explains, Jim

did a lot of work on that end, when we got some editorial feedback. He did consult with us, you know, in the little pieces that you needed to, but he did most of it. […] at some point, there was little more consulting […] He would maybe send us the whole thing, or a portion of it, and say “Are you fine with this?”
Tony agreed, stating that at the revision stage he “was doing tweaking advice,” while Jim oversaw the exhibit as a whole. Given the scope and timeline of the SL task, different phases of the project lent themselves to different divisions of composing labor.

While all five coauthors composed written content and/or visual design for the exhibit during the drafting stage, once the project moved into the revision stage, the division of labor shifted to locate responsibility for revisions to alphabetic and audiovisual content, as well as navigation/design in the Prezi document, primarily in Jim. Group members collaborated, as Jim describes above, at points where the whole project was at stake, such as while bringing the exhibit text together, translating it into the Prezi document, and deciding how to respond to editorial feedback. At other points during the composing task, however, individual group members took responsibility for smaller parts of the exhibit based on their connections to related professional projects and access to digital literacy resources.

*Strategic Stakeholder Involvement in Digital Media Coauthorship*

Scholars who study digital scholarly production like Laura McGrath and Helen J. Burgess and Jeanne Hamming argue that born-digital scholarship often encourages, if not mandates, working with coauthors to distribute responsibilities across multiple people. As Claire Lauer argues, digital texts like the SL exhibits require rigorous the same kind research and precisely written alphabetic text that goes into print publications, in addition to the kind of development and design work Carolyn and Jim describe above. As a result, digital scholarly projects often take longer to complete than print ones, as some SL contributors with extensive print publication experience noted. Other SL contributors with experience publishing digital scholarship explained that the additional design work
digital scholarship requires is a consideration which affects their willingness to take on new projects. One participant, who edits a born-digital journal and has published digital scholarship both alone and with coauthors, stated that

I can’t see myself doing one [digital publication] a year. That would be very, very difficult. So I tend to space those out. Every couple of years I find myself involved in a digital piece. I’m working [right now] with another group of people, and we were trying to make decisions about what we were going to submit to in terms of the most recent Kairos call for multimodal research. And we passed on that and submitted the piece to the multimodal assessment collection that Dânielle DeVoss and Heidi McKee are doing, which is also going to be a digital book. But it can be much more traditional in some ways. It’ll be a .pdf with media embedded and images embedded. But not a website. So it was sort of a modified digital decision on that.

As Susan H. Delagrange has argued, the process of revising digital, multimodal scholarship often requires redesign. Like Jim, Delagrange asserts that design is a fundamental aspect of argument in digital scholarship, which means that revising a digital publication’s content often requires significant changes to the piece’s overall design as well. This means that a digital project may go through multiple, completely different design iterations before publication, a labor consideration other SL contributors also commented on. One pair of coauthors described spending several months composing their exhibit once in Prezi, and then, in response to editorial feedback, spending another few months thoroughly revising their written text and bringing in a professional designer to help them create a completely new .html-based exhibit. These coauthors completed two entirely separate versions of their project over the course of a year, representing a considerable amount of work and requiring them to enlist an additional group member.

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88 Lauer and Delagrange describe similar from-scratch redesigns of digital publications in response to questions editors raised about what their designs where contributing to their overall arguments.
Even though Jim (and Andy) were responsible for all the digital production work for the exhibit, Jim emphasized the value of the group’s collective expertise, reflecting what Cynthia Sullivan Dickens and Mary Ann D. Sagaria identify as an instrumental or pragmatic approach to collaboration. Working with four of his colleagues on the SL exhibit was valuable because of the breadth of knowledge multiple authors brought to the project: “It’s a win-win. Because they bring valuable insights that I don’t have. […] They have their expertises.” However, Jim, in particular, also viewed serving as the group’s “workhorse” and one of its digital composing experts as a strategic consciousness-raising move in his department:

one of the things that I view as my role in this department is to try to bring people…into these kind of projects, and let them experience. Tony just retired, okay, and Carolyn is in her fifties and hasn’t dealt with this a lot. And Martin, until this project, was kind of a hardened Luddite. […] they don’t know…what it takes to build something like this. Any time you can bring somebody in and they can see “Oh my gosh, this takes hours.” And then again, it’s part of getting it [to] count as well, right. Because all of a sudden, you know, maybe I don’t have twelve articles that I’ve published. But I’ve got nine that have media content, or that involved web development. And the more people that understand that, the work is no longer invisible.

As an assistant professor in a writing and rhetoric department without a tradition of digital scholarship, Jim sees coauthoring with colleagues as an opportunity to make the labor involved in digital publishing visible. Carolyn’s comments on the value of working on the SL exhibit as a group suggest that Jim succeeded in making his colleagues aware of the labor digital scholarship requires:

I think it might be possible that one person could do all of this, could write the piece and do the multimodal [production work], however they were

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89 When I interviewed the SL focal group in the winter of 2012, Tony had retired. While they were working on the exhibit, however, he was still working in the writing and rhetoric department.
going to do it. But it seems to me, there’s just such an advantage in having this sort of synergistic team thing.

Carolyn’s recognition of the work that goes into digital publishing also suggests a way to initiate newcomers into digital composing. Recognizing the scope of digital scholarly composing and endorsing digital coauthoring are small, but important, signs. They hint at the potential digital composing groups have to circulate intellectual resources such as respect for and interest in digital composing. Carolyn speculated that, based on her experience working with Andy, Jim, Martin, and Tony, she would like to participate in another coauthored digital project:

Well, if I had some colleagues with the expertise that some of this group of colleagues had, I would definitely do it again. I think we’re real eager to see how this turns out. I think this is…really important to be doing these digital or these multimodal things. And yes, I would. And you know, I’m a few years from retiring, but I really wish that I had all the knowledge that some of my colleagues, mostly younger, have, and a good many of my students have. And I do tiptoe out into these things. But it doesn’t deter me from working with others who do have the expertise.

Carolyn indicated that she has become not just an ally, as Jim hoped, but that she is interested in participating in future group-based digital scholarly composing projects.

Other SL contributors who approached the project without digital composing experience agreed that working with others on their exhibit encouraged them to consider pursuing digital publishing in the future, especially with coauthors.90

90 Not all participants who came to the SL exhibit task without digital composing experience enjoyed the process of creating their exhibit with a designer or became interested in future opportunities for digital coauthorship. Members of 2 of the 11 composing groups from the SL collection site expressed frustration with the digital composing process. They were proud of their exhibits, but stated that they would never again publish digital scholarship using the same approach. And even the members of these two groups remained potentially open to the idea of future group digital projects. They stipulated, however, that in the future they would insist on working from the beginning with a designer who was familiar both with the conventions of academic digital publishing and with the exhibit’s subject matter (at least to some extent). Cases like these two groups highlight the need for research on group digital composing methods that develop best practices to guard against the kinds of negative experiences they had.
Karen, a full professor with almost twenty years of seniority in the English department where she worked, reflected on her attitude toward digital composing after working on her exhibit with Britta, a graduate student in the department who served as the exhibit designer:

Karen: You’ve got me thinking what new softwares I would have… I didn’t use them myself, but I became a lot more aware. You know, I mean, like Dreamweaver,91 I’ve never done even a workshop in Dreamweaver, and just so watching you work with it, and seeing, I feel like I learned some things about how it works or what can be done with it, even though I wasn’t operating it myself.

Britta: Well, this is one of my questions, […] whether the experience of what you’re talking about, sitting side-by-side with somebody while they’re manipulating stuff in Dreamweaver or Prezi or whatever, changed your attitude toward that software.

Karen: Yeah.

Britta: Not necessarily to be like “I can totally do this,” but like “I might be able to do this. I might be interested in doing this.”

Karen: Yes. That exactly is what happened. And it, you know, it didn’t seem as hard as I had made it out to be. […]

Britta: Making it seem, making the whole process of digital design, multimodal design seem more approachable.

Karen: Yep.

Britta: So, in light of that, how would you say that you feel about doing another project like this?

Karen: Yeah, I would really like to. And I think that that’s very much so. But it makes me think about… new faculty or new people who have worked with print for a long time, predominantly, and moving them into digital. And I want to say time, of course we need time, but it’s not just time. It is the time that will give you the luxury to play and fail. [emphasis in original]

Karen and Carolyn have not been inspired to dive headfirst into single-authoring digital scholarship. But as a result of their experience working with technology expert coauthors, they have become open to future digital scholarly projects and aware of the labor required to produce them. As established members of their departments, colleagues like Carolyn

91 Dreamweaver is the web design application in Adobe’s Creative Suite, often considered the industry standard for creating websites. Britta used Dreamweaver to create Karen’s SL exhibit.
and Karen are important allies for tenure-track faculty like Jim, as well as valuable contributors to individual projects who help validate and normalize digital publishing in the field at large.

In addition to the important work of raising awareness about the technical and intellectual work that goes into digital scholarship, assembling a group of coauthors that includes both experienced and novice digital composers provides an opportunity for newcomers to “tiptoe” into multimodal composing. Carolyn’s and Karen’s interest in future digital coauthorship suggests that participating in digital group composing tasks as content contributors and design evaluators (Carolyn) or onlookers (Karen) may lead to further opportunities for digital literacy development. Karen, in particular, suggests that she might like to try her hand at composing in Dreamweaver, although her reservations about the time beginners need to hone their skills indicates that she will proceed with caution. Carolyn’s and Karen’s experience suggest that group digital composing projects may serve as gateways that introduce members without multimodal composing experience to the intellectual digital literacy resources that support such work. Seeing involvement in a group composing task as a potential form of literacy sponsorship, similar to Scott’s techne-mentorship of Laura in the laptop section group, positions Carolyn’s and Karen’s interest in future digital projects as an intellectual literacy resource.

For interested coauthors like these women, working with designers on their SL exhibits may function as a necessary, although not sufficient, step toward greater involvement in scholarly digital composing. Their openness to future composing tasks represent an intellectual digital literacy resource that may encourage them to participate
in future group digital composing tasks that may eventually serve as a stepping stone toward the kind of digital composing work Jim, Andy, and Britta did. However, for both exhibits, the heavy-lifting design work was performed by designated technology experts. Even Karen, who sat alongside Britta while she worked, did not come out of the exhibit task able to compose multimodal web texts. For Carolyn’s and Karen’s openness to coauthoring digital scholarship to translate into accumulating the material and intellectual resources Jim, Andy, and Britta drew on to produce their groups’ multimodal digital texts, I recommend metacognitive approaches to group digital composing in the chapter conclusion. These reflective exercises encourage group members to think strategically about the responsibilities they take on as group members in terms of their learning goals, not only their accumulated literacy resources. Strategically selecting responsibilities can make it possible for members to cultivate new digital literacies during the cooperative and collaborative phases of the group composing task.

**Conclusion: Using Cooperative and Collaborative Approaches to Group Digital Composing to Promote Digital Literacy Learning**

Why belabor the relationship between collaboration and cooperation? Why scrutinize the ways in which each approach facilitates literacy resources transfer? These questions bear investigating because groups in my study and in the literature use both modes. Cooperative and collaborative approaches create different group digital composing experiences, providing different opportunities for digital literacy resource transfer. Furthermore, when teachers envision classroom-based group composing, they often equate it with Ede and Lunsford’s dialogic collaboration model. Cooperation’s emphasis on dividing responsibilities between members also conflicts with outcomes-
based assessment paradigms which dictate that each student master the same skills. For example, without articulating my expectations to myself or my students, I wanted students to collaborate, not cooperate, on their videos in my digital composing class. Anne-Marie Pedersen and Carolyn Skinner’s advice to teachers of multimodal composing demonstrates the collaborative thrust that underpins many group-based digital composing pedagogies:

For various reasons (different levels of familiarity with digital technology, personal preferences for auditory or visual modalities, mismatched working styles) students in a collaborative92 project may want to divide work so that each does what he or she is most comfortable—or interested—in doing. Although dividing the project this way may be efficient, it can also diminish the range of students’ learning. If teachers do not pay careful attention to groups’ work habits and dynamic, for example, they may find that a technology savvy group member on a team has done all the technological work and the other group members have learned very little about new software, editing, or multimodal composing. (44-45)

The division of work Pederson and Skinner caution against is exactly what happened in the focal groups in this chapter, especially in the case of the SL group. However, I argue that groups’ careful consideration of the demands of their digital composing task and the literacy resources to which individual members have access can also promote digital literacy learning. It is true that approaching their projects cooperatively did not ensure that each of my former students could plan, record, and edit a video independently. However, I now wonder whether these students might have learned other valuable skills like the ones demonstrated by the case study groups I examine in this chapter, such as how to divide composing responsibilities and access literacy resources to fulfill them. Furthermore, experiences like Laura’s, Carolyn’s, and Karen’s indicate that adopting a

92 Pedersen and Skinner use “collaborative” here in Ede and Lunsford’s sense, to describe any kind of group-authored project.
cooperative, rather than collaborative, approach to digital group composing does not necessarily prevent members from accumulating digital literacy resources while working on the task. Cycling between collaborative and cooperative composing phases can also provide access to literacy resources assembled around the group task that allow members to take on different roles in future tasks. The focal groups’ recursive movement between cooperative and collaborative methods of group composing also shows how cooperative and collaborative approaches work with and support each other (as Yancey and Spooner suggest), based on the scope of the task, the distribution of literacy resources among group members, and the relationship between individual parts of the composing task.

**Rethinking the Relationship between Cooperative and Collaborative Group Composing Methods**

The focal groups’ shifts between cooperative and collaborative methods for structuring their digital composing tasks point to the blurry distinctions between them. Their experience aligns with Jim Ridolfo et al.’s argument that a group’s composing process is “less a linear movement along a single, pre-determined trajectory than it is a modular, contextualized, and dynamic set of activities” shaped by the larger goals motivating individual members (132). Ridolfo et al and I call for teachers and researchers to be more open-minded about the group composing methods they advocate and to recognize the dynamic approaches to group composing that respond to the changing demands of the task, the kind of work that needs to be done, and the relationship of individual group members’ accumulated literacy resources to the task.

Furthermore, some phases of a composing task seem to encourage collaboration, particularly early on when the entire project is being mapped out. When the whole project
is at stake (for example, when the community literacy course group created the focusing questions and slide template for their final project presentation, or when the SL group reviewed the design of their multimodal Prezi exhibit), all members are invited to participate. Conversely, when the scope of the task phase is smaller (for example, when Jacob compiled group mates’ individually-drafted texts to create the report for the community literacy final project or when Jim produced his group’s final exhibit draft, the responsibility is smaller, too. An individual group member can work independently on a lower-stakes phase of the project, although they remain accountable to the group.

Cooperatively distributing some parts of the composing task still allows group members to collaborate in real time—often face-to-face—for production phases that shape the entire project and affect members’ individual contributions.

The scope and duration of the task also seem to influence groups’ shifts between cooperative and collaborative approaches. For example, in the community literacy course group and the SL group, points of collaboration occurred early in the drafting process, after members had worked together to collect literacy narratives. In addition to giving group members time to establish a working relationship, the focus on literacy narratives gave these two project groups something on which to collaborate. If collaboration is characterized by interrogating ideas and debating meaning in language, as McGrath argues, this assumes an object around which group members engage in such a socially and intellectually demanding process.

Finally, my argument for groups’ movement between cooperative and collaborative approaches reflects my priorities as a researcher. This study focuses on digital composing tasks and therefore foregrounds the process of creating the digital texts
the groups produced. It is likely, however, that a study of the same sites privileging other aspects of group work (for example, group members’ efforts at consensus building or use of gesture versus speech) might have highlighted different social roles structuring the groups’ work, defined responsibilities differently, and identified different roles for group members to take on. Lad Tobin’s statement about where a researcher points the camera and begins filming applies here: the mobility this study emphasizes between cooperative and collaborative modes of group composing reflects not only to the shifts I have identified here but also to my focus and priorities as a researcher.

Techne-Mentoring, Cooperative Digital Design Work, and Digital Literacy Resource Transfer among Group Members

For the focal groups in this chapter, digital literacy resource transfer was incidental to their composing task, a byproduct of its completion rather than a fundamental purpose or necessary condition. Although learning how to edit their own videos in the community literacy course or operate Join.me in the laptop section certainly helped group members contribute to the group’s composing task, accumulating these digital literacy resources was not required. Community literacy group members could have relied on Jacob to make their video clips, and members of the laptop section group could have requested that their group use a familiar technology like email to exchange comments on each other’s drafts instead of using Join.me. Incidental digital literacy transfer has everything to do with motivation, as suggested by the community literacy course group members’ desire to learn about video production and Laura’s endorsement of Join.me.
I am not claiming that members of digital composing groups should necessarily accumulate digital literacy resources based on their proximity to material and intellectual literacy resources clustered around their task. Techne-mentorship is defined by context and recognition: Finn defines techne-mentors as the go-to technical experts in their immediate context. In the group composing tasks in this study, “going-to” (working with or asking after) techne-mentor group members created opportunities for group members like Laura and Carolyn to accumulate resources contributed by other group members. The language I use here (going to, seeking out) echoes my characterization of foraging in Chapter 2. When group members like Laura sought out techne-mentoring group mates, they were foraging for digital literacy resources in the cluster of resources assembled around their group composing task.

My discussion of resource accumulation within digital composing groups through techne-mentorship differs from Brandt’s description of literacy accumulation through sponsorship.93 To focus on how class position (as well as race, gender, and historical period) creates opportunities for and imposes constraints on literacy accumulation, Brandt describes sponsors as stable entities who are bosses, teachers, parents, et cetera, whose power as sponsors derives from their position. She suggests that sponsees adopt the literacy practices their sponsors promote, illustrated by participants like Charles Randolph’s absorption of sermonic rhetoric as a result of growing up as a minister’s son

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93 Brand defines sponsorship as “any agents, local or distant, concrete or abstract, who enable, support, teach, and model, as well as recruit, regulate, suppress, or withhold, literacy—and gain some advantage by it in some way. [...] Sponsors, as we ordinarily think of them, are powerful figures who bankroll events or smooth the way for initiates. Usually richer, more knowledgeable, and more entrenched than the sponsored, sponsors nevertheless enter a reciprocal relationship with those they underwrite” (Literacy 19).
(“Accumulating” 652) and Dwayne Lowery’s on-the-job development of debating and brokering literacies during his decades as a union negotiator (Literacy 52-55).

Techne-mentorship, on the other hand, highlights the contextual nature of digital literacy expertise, while acknowledging that the sources of power Brandt identifies (class, race, age, gender, educational background, professional status, et cetera) frequently determine who gets recognized as a techne-mentor. Techne-mentorship’s emphasis on context also makes room for greater agency in literacy resource accumulation. Because techne-mentors must be sought out, group members can choose to be mentored based on their learning goals. Group members like Tony, who do not anticipate doing digital composing work in the future, have little incentive to learn the ins and outs of Prezi. He is content to admire the design created by the group’s technology experts. Carolyn, on the other hand, sees digital production work as relevant to her future teaching and research, and describes working more closely with Jim and Andy during the collaborative design phases of the SL exhibit composing task. The opportunity to work alongside, and sometimes along with, group members with different digital literacy resources provides an opportunity, not a mandate, to transfer resources between group members in the literacy ecology subsystem created around the group composing task.

Access to techne-mentors in digital composing groups like the ones featured in this chapter—all located in academia—is also shaped by factors like class and educational background. In this way, techne-mentorship within digital composing groups is an ad-hoc and partial response to the need to broaden access to digital literacy resources, like the foraging methods I propose in Chapter 2. Digital composing groups’ ability to bring together individuals with varied technological experience makes resource
accumulation through techne-mentorship possible. And although the composition of the groups and the identification of techne-mentors within them can be problematic, participation in group digital composing tasks can provide valuable opportunities for digital literacy learning.

*Facilitating Literacy Resource Transfer and Accumulation through Reflexive Task Structuring*

Cooperative composing approaches can perpetuate inequality and limit learning, as Ede and Lunsford and Pedersen and Skinner caution. Efficiently delegating digital production responsibilities to members with pre-existing design experience illustrates how, even under the collegial conditions of the community literacy course and SL groups, experience can consolidate under existing experience. This is a particular concern in classroom digital composing groups, where learning outcomes often call for students to acquire literacy resources that will allow them to independently produce their own digital texts in the future. However, I argue that cooperation can help students accumulate digital literacy resources, when structured to facilitate transfer among group members.

Scaffolding a cooperative classroom digital composing task with reflexive activities that encourage group members to think about the task’s demands and how those demands relate to their existing experience and future aspirations can offset cooperation’s tendency to perpetuate unequal distribution of digital literacy resources in the name of efficiency. In light of Ede and Lunsford’s critique of the oppressive potential of cooperative group composing methods, I argue that the group in which roles were designated the most explicitly was not the most rigid in its distribution of work: out of the three groups, the community literacy group members seemed to shift the most between
cooperative task division and collaborative “writing with” (Day and Eodice’s term) over the course of their task.

To resist reproducing already-unequal distributions of digital literacy resources in classroom digital composing groups, instructors can add a reflective exercise to the kind of cooperative group formation activity Sylvia led in the community literacy course. An activity that focuses on students’ relevant experience and on their learning goals can help group members avoid perpetuating the in-group hierarchies which can be seen replicating themselves in the community literacy and SL groups. Teachers can use reflexive questions to call students’ attention to the relationship between cooperative roles, existing resources, and future goals. After discussing the requirements of the task and approaches groups can use to divide and share responsibilities among members, teachers can direct students to individually consider the following questions about how they will participate in the composing task as a learning opportunity:

1. What does the project ask your group to do? What is the group responsible for doing?
2. Which of these responsibilities are you comfortable performing or have you performed before?
3. Which responsibilities would push you outside your comfort zone or ask you to take on unfamiliar activities?
4. What do you want to get out of this project? What do you hope to learn?
5. Review your answers to Questions 2, 3, and 4. Select a few project responsibilities that draw on your existing expertise (Question 2), push you outside it (Question 3), and meet at least one of your learning goals for the project (Question 4).

By calling students’ attention to group digital composing tasks as learning opportunities, teachers can encourage students without technology expertise to assume task responsibilities that will push them to acquire material and digital literacy resources.
In order to take advantage of any digital literacy resources individual members bring to the task, group members can compare their answers to these questions. After completing their individual exercises, direct groups to discuss where members’ experience, learning goals, and desired roles overlap. These points of intersection, especially between experience (Question 2) and learning goals (Question 4), suggest pairings within the group that can facilitate digital literacy resource transfer between members. Pairing group members on the basis of accumulated/desired digital literacy resources facilitates the kind of in-group foraging I associate with seeking out a techne-mentor. Collaborating with a techne-mentor to work on a responsibility that meets a learning goal takes advantage of the resources gathered around a group composing task and encourages the kind of extensive foraging Claire and Diane were able to do through Patrick in Chapter 2.

The reflective task planning exercise I outline here seeks to formalize and amplify the kind of techne-mentorship that occurred in the community literacy course and laptop section groups. Answering these questions identifies individual group members’ existing digital literacy resources, a strategy Jentery Sayers recommends for encouraging students to teach each other in digital composing courses. Identifying individual students’ existing expertise tells their group mates who to seek out when they have specific questions. This approach takes advantage of both the cooperative and collaborative phases group digital composing tasks pass through, balancing collaborative opportunities for resource-sharing and explicit instruction with cooperative phases that may encourage the kind of foraging described in Chapter 2.
The case studies I examine in this chapter suggest that digital composing groups draw on both cooperative and collaborative approaches to structuring their tasks. Furthermore, the cooperative and collaborative methods groups used for different phases of their composing tasks demonstrate their ability to identify which approaches best suit different activities. Examining how the groups designated members’ roles and distributed responsibilities also suggests ways in which cooperation, as well as collaboration, can facilitate literacy resource transfer during the composing task. To encourage group members, especially student members of composing groups, to approach cooperative digital composing tasks as opportunities for literacy resource accumulation, I propose a reflexive pre-task activity that links the task to prior literacy experience and future learning goals. Calling on students to choose their cooperative responsibilities carefully and advising them to partner during collaborative task phases with group mates who have literacy resources they lack helps realize the kind of literacy resource transfer group composing makes possible.
Chapter 4: Working with/against the Grain of Design: Group Digital Composing in Classroom and Distributed Workspaces

Opening Anecdote
During my first term teaching, I was observed by an experienced instructor as part of my department’s TA training program. When we discussed the observation, she recommended that I pay closer attention to my use of classroom space. Specifically, she noted that the way I hovered around the podium divided the room into a teacher zone for talking and a student zone for listening, limiting both my interaction with students and their interaction with each other. “Even though that classroom is really hard to work with”—it was a computer lab where students sat in long, narrow trenches perpendicular to the projector screen at the front of the room—“try moving around more to take advantage of the space you do have,” she suggested. “That will help you change up the room’s orientation for different activities.”

As my colleague astutely observed, the relationship between space and composing is an important one, both in classroom spaces like the one I taught in as a first-time instructor and in the on-and off-campus workspaces where students and faculty compose digital texts. Picking up where Chapter 3 left off discussing the distribution of digital composing work among group members, this chapter considers how the material and symbolic characteristics of physical and virtual workspaces affect collaborative digital composing. How do spaces act on groups of digital composers, and how do they, in turn, act on these spaces?

As this opening anecdote suggests, space affects the teaching and learning that happens both in composition classrooms and in the other school, professional, and corporate spaces in which composing groups worked. These spaces, as well as the expectations with which digital composers approached them, shaped the cooperative and collaborative composing methods groups used and the extent to which group members shared literacy resources. In this chapter, I treat the physical and virtual spaces where groups worked as a material resource that supported their digital composing work.

Chapters 2 and 3 looked primarily at the movement of intellectual resources across
spheres and between group members as they worked together on digital composing tasks. In these chapters I focused on how individuals and groups used the resources they gathered, drawing fairly direct connections between experience in and connections to family, peer, professional, and public patches and group members’ contributions to the task. Examining space as a material resource in this chapter considers how groups influence space through their use (inhabitation) of it, as well as how space affects groups’ process of digital composing.

Groups’ adaptation of and to space reflects the interrelation Deibert identifies between material and ideological conditions (see Figure 1 in Chapter 1). Space, including virtual environments like the Google Docs platform Jacob and Charlie’s group used, forms the environment in which groups compose. But working environments do not simply exist and influence groups’ digital composing work. As Dobrin and Deibert argue, groups make use of their composing spaces based on the social epistemologies (values and beliefs) with which they approach it. These values and beliefs are shaped by the spheres (institutions and organizations, in Deibert’s terminology) through which groups approach these spaces. Spaces’ locations in spheres add conditions of access and (sometimes) conflicting expectations for use. Reflecting the relationship I draw between spheres and patches in Chapter 2, spaces are located in spheres, but groups experience them as embodied patches. When inhabiting these patches, groups must negotiate the affordances and constraints of design, members’ own beliefs about group composing work, and other institutions and inhabitants’ expectations for behavior in that space.

This chapter examines how groups in all three research sites selected, adapted, and adapted to the spaces in which they worked. The physical features of the rooms
where groups worked face-to-face and the affordances/constraints of the virtual spaces
where they worked online shaped the ways collaborative and cooperative composing
work played out. I connect observational and interview data on group digital composing
in physical and virtual spaces to discussions of pedagogy and infrastructure in order to
argue for space as a material literacy resource that influences, and is influenced by, the
work groups do in that space. Student groups in the laptop section and community
literacy course created different classroom workspaces, influenced by the composing
tasks, the classrooms’ physical and symbolic locations within the university, and the
classrooms’ physical affordances as learning spaces. When community literacy course
and Stories about Literacy (SL) groups worked together in non-classroom spaces, many
chose workspaces based on their physical and cultural characteristics, such as providing
access to material resources like computers and software or allowing behaviors like
talking and moving around. Several of these groups also composed together in virtual
spaces like Google Docs and Prezi when they could not work together face-to-face.

My findings suggest that the specific composing activities groups engage in shape
how they inhabit their workspaces, and that groups’ production of workspace changes as
the demands of their composing task change. My focus on student composing groups’
production of classroom workspace, in particular, extends existing work on classroom
design that focuses on how teachers can encourage specific learning activities using
specialized furniture or layouts. For groups that worked in self-selected (non-classroom)
physical and virtual spaces, I focus on the distribution of these material digital literacy
resources across patches to which different group members had varying degrees of
access. The community literacy course and SL collection groups suggest that both student
and faculty digital composing tasks use physical workspaces located in family, school, and professional patches, and virtual workspaces located in corporate patches. The distribution of these workspaces raises questions about digital composers’ conditions of access to space as a material resource and about who will provide support for digital composing infrastructure.

Table 18: Participants in Chapter 4, Listed in Order of Appearance

<table>
<thead>
<tr>
<th>Site</th>
<th>Laptop Section</th>
<th>Site</th>
<th>Community Literacy Course Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily White traditionally-aged freshman</td>
<td>Laura White traditionally-aged freshman, group mates with Scott</td>
<td>Rachel White traditionally-aged freshman</td>
<td>Scott White traditionally-aged freshman, group mates with Laura</td>
</tr>
<tr>
<td>Jacob White undergraduate student in his early 20s, group mates with Charlie</td>
<td>Charlie White graduate student and full-time high school teacher in his mid-30s, group mates with Jacob</td>
<td>Nia Black undergraduate student and full-time working parent in her mid-30s</td>
<td></td>
</tr>
<tr>
<td>Josh White associate professor in his mid-30s, group mates with Chris</td>
<td>Chris White lecturer and Ph.D. candidate in his mid-30s, group mates with Josh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Composition’s Spatial Turn: Geographies of Writing and Digital Composing

“Writing Takes Place,” Dobrin’s widely-cited essay from the influential Ecocomposition collection, states what has become a truism in composition: composers work in spaces, and those spaces are an important influence on their writing process. However, composing spaces are not neutral or stable, but constituted by the interaction between people and their environment. Scot Barnett identifies a “spatial turn” in composition, influenced by the work of cultural geographers like Henri Lefebvre, Edward
Soja, and Doreen Massey, which has been well underway since the 1990s. He argues that scholars like Nedra Reynolds, John Ackerman, and Rhonda Grego and Nancy Thompson have articulated a “critical spatial awareness […] renewing the field’s awareness of space by foregrounding how our distinct modes of embodying, dwelling, and moving within space help constitute our rhetorical capacities and lived experiences in the world” (Index). The spatial turn has directed compositionists’ attention to space at the immediate classroom level, the institutional level, and the cultural symbolic level.

Demonstrating one way in which the field has approached the production of space, Paul Prior and Jody Shipka’s work on “environment selecting and structuring practices” (ESSPs) looks at how composers seek out and/or create workspaces for writing. Individuals engage in physical ESSPs by choosing composing environments based on features like quiet, comfortable seating, and proximity to sources of food and information (222). For Prior and Shipka, patterns of behavior can also function as ESSPs, such as writing for a set length of time without stopping, assuming certain physical postures, and engaging in focused discussion with specific conversation partners (222). ESSPs position workspace as created through both its physical characteristics and its use. Space is not a stable material object but, as Jonathan Mauk asserts, “an animated social phenomenon” (211). Reynolds’ description of a cultural geography for composition emphasizes the need to treat space “as a site for the production of culture” while keeping in mind that “people and artifacts interact to create a culture, a culture out of that place.

94 Composition’s spatial turn is not unique: since the 1980s, humanistic and social science fields from anthropology and sociology to religion and film have become interested in space, place, mapping, and imagined geographies (see, for example, Barney Warf and Santa Arias’ interdisciplinary collection The Spatial Turn). Although the subject is discussed from a multitude of disciplinary perspectives, my focus here is on composition scholarship’s approach to space.
but not overdetermined by it” (56). She emphasizes how important the felt sense of space is (for instance, how feelings of discomfort can exclude individuals from certain spaces) to argue that the production of space includes “emotional and psychological attachments to place and space” in addition to politicized questions about access and infrastructure (57).

Other work in composition studies that uses activity theory and post-process theory to examine the relationship between writing and the space where it is produced (see Bazerman and Russell, Shipka) typically looks at writers working individually, focusing especially on non-classroom spaces. This chapter also locates composing work in space, but looks at how individuals compose together in groups in a variety of spaces both in- and outside school. One study that examines classroom spaces for digital composing in detail and connects them to institutional policy is Dânielle Nicole DeVoss, Ellen Cushman, and Jeffrey Grabill’s work on infrastructure. They demonstrate how a class’ infrastructure (the inhabited space that emerges through the process of its use (22)) can be a flexible construct for teachers and students to analyze and influence. DeVoss, Cushman, and Grabill’s emphasis on the multiple levels of infrastructure95 reflects the

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95 DeVoss, Cushman, and Grabill's Multiple Levels of Infrastructure (pgs. 20-21):

<table>
<thead>
<tr>
<th>Transparency</th>
<th>Infrastructure invisibly supports tasks without having to be reinvented for each use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach or Scope</td>
<td>Infrastructure extends through time and across tasks</td>
</tr>
<tr>
<td>Learned as Part of Membership</td>
<td>Learning to navigate an infrastructure is part of entering a community of practice</td>
</tr>
<tr>
<td>Links with Conventions of Practice</td>
<td>Infrastructure shapes and is shaped by its conventional use in a community of practice</td>
</tr>
<tr>
<td>Built on an Installed Base</td>
<td>Infrastructures build on each other in the complex ecology surrounding an institution or community of practice</td>
</tr>
</tbody>
</table>
combination of physical, institutional, and social dimensions of space I examine in this chapter. The emphasis this study places on groups of digital composers working together is especially important because

1. much of the discussion of new classroom design centers on spaces that support student interaction and group work and
2. composing in digital environments requires coordination of bodies, furniture, and composing environments.

These considerations draw particular attention to the complex relationship between space and composing. Studying composing groups’ use of technological devices and virtual composing spaces adds considerations of physical, infrastructural, and conceptual access to composition’s ongoing discussion of space.

Much of the literature on digital composing focuses on the texts composers produce. And work that does focus on digital composing processes (like DeVoss, Cushman, and Grabill) often focuses on individual students’ work, rather than group work. These studies lay valuable groundwork for me, providing a starting place for examining the significance of space and examining how groups of digital composers might use it. As the community literacy course and SL collection research sites demonstrate, classrooms constitute only one possible location for group digital composing work. Large tasks like these encourage the use of the cooperative structuring methods described in Chapter 3, guiding students toward project planning, division of labor, group member roles, and check-ins. These project management methods, and the distributed physical and virtual workspaces in which they take place, parallel knowledge

<table>
<thead>
<tr>
<th>Becomes Visible upon Breakdown</th>
<th>Infrastructure stops being transparent when it doesn’t function normally, making users aware of it and potentially prompting changes to the infrastructure.</th>
</tr>
</thead>
</table>

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economy working conditions. Student and faculty digital composing groups draw on university-provided material resources like audiovisual equipment and computer labs, supplying additional private and commercial workspaces like libraries, houses, offices, and coffee shops. The variety of non-classroom spaces where student groups work parallel the working environments academics use. Faculty digital composers may divide their time between working at their family home, in their on-campus offices or available classrooms/labs, in coffee shops, or on the road while traveling. Furthermore, while the student groups I examine here attended at the same institution and often worked together face-to-face, many academic coauthors lived far apart and relied on virtual composing spaces to work on their exhibit between face-to-face meetings.96

My examination of space also has implications for the kinds of constructivist pedagogies many composition instructors favor, such as minimizing lecturing to allow for in-class studio time, encouraging student-led/-centered synthesis and analysis activities, and facilitating peer review workshops. How do these activities play out in actual classrooms? What relationship do they bear to digital composing work done outside the classroom? The pedagogical trend for encouraging students to actively construct knowledge in the classroom, rather than passively absorb information disseminated by the teacher, has prompted many educational designers to recommend new classroom designs to support these activities (see Jamieson, Oblinger). These proponents of new learning spaces argue that inflexible classroom designs, especially those designed to

96 Readers will recall that Jacob and Charlie’s group from the community literacy course also used Google Docs to draft text for their project. In this chapter, however, I discuss the SL focal group’s use of Google Docs and other virtual composing spaces in order to focus on Jacob and Charlie’s group’s distribution of their group composing work across physical workspaces. This is because the SL coauthors used a greater variety of virtual composing environments and used them more extensively, their interview responses allow me to discuss virtual spaces for digital composing in greater depth.
direct students’ attention away from each other and toward the teacher at the front of the classroom, belong to an outmoded philosophy of learning. How, they ask, can teachers enact constructivist pedagogies, and how can students be expected to respond to them, in classrooms which are specifically designed to discourage student interaction and sustained work? Furthermore, these comments all apply to classrooms that are in good repair, with adequate light, climate control, sightlines, and acoustics. Another host of problems arise when classrooms are poorly lit, noisy, too hot or cold, or when obstructions block students’ view of boards or projector screens (Graetz 6.2-6.3). And, heeding Reynolds’s warnings not to ignore the culture dimensions of space, how do composing groups produce these spaces by inhabiting them?

This chapter moves beyond studies of individual student composers to focus on the spatially-located processes of group composing through which those digital texts are produced. I follow James E. Porter et al.’s approach to integrating spatial analysis into larger institutional critique (619-620, 630), connecting the spaces and inhabiting behaviors I analyze to larger questions about infrastructure and digital composing. To draw these connections, I start with the micro-level interactions between students, teachers, and individual classrooms that educational designer Jos Boys describes as “teaching and learning encounters” (“Beyond” 4). For the community literacy course focal group, I then connect these specific productions of classroom space to the ways in which student groups inhabit workspaces across campus, what Boys calls institutional-level “teaching and learning relationships” (“Beyond” 4). And with the community literacy course and SL collection focal groups, I examine the “teaching and learning processes” that go beyond the university into physical and virtual spaces located in
family and professional spheres that offer new opportunities for digital composing and raise concerns about infrastructure, access, and privacy for digital composing (“Beyond” 4).

Laptop Section: Group Composing Work with and against the Grain of Classroom Design

The laptop section site offers an example of how student digital composing groups produce workspace at the micro learning and teaching encounter level. The classroom’s “traditional” design suggested lecture-based learning to the student, which conflicted with the active, group-based pedagogy Kristy, the instructor, provided. Although groups mostly adapted their composing processes to the classroom’s lecture-based design, a change to their in-class composing work prompted several groups to use physical and virtual space in new ways. Boys calls teachers and researchers to pay attention to how students produce classroom space, arguing that space can only be defined in its specific use, consisting of

- the ordinary social and spatial practices of existing communities of practice in education;
- designed learning environments;
- participant perceptions of space, and their engagements with, and adaptations of, both learning spaces and practices. (Toward 7)

Describing how these “ordinary social and spatial practices” influence students’ use of learning spaces, educational designers C. Carney Strange and James H. Banning argue that “although the features of the physical environment lend themselves theoretically to all possibilities, the layout, location, and arrangement of space and facilities render some behaviors much more likely, and thus more probable, than others” (15). This intuitive relationship between design and use and the habits of ordinary
classroom behavior Boys identifies influenced group composing work in the laptop section. Such expectations sediment what Torin Monahan calls “built pedagogy,” classroom furniture and layouts designed to reflect certain educational philosophies. As Nancy Van Note Chism observes, “A room with rows of tables and chairs facing an instructor’s desk in front of chalkboards conveys the pedagogical approach ‘I talk or demonstrate; you listen or observe’” (2.2). The laptop section students got conflicting messages about how to do in-class group composing work from Kristy, on the one hand, and from the classroom’s design and their educational experience, on the other. When students engaged in the kind of group composing work Kristy assigned, the classroom’s physical characteristics posed obstacles. Late in the term, a change in their composing work encouraged students to use classroom space differently, taking advantage of some of the theoretical possibilities Strange and Banning locate in classroom learning environments. My analysis of the laptop section looks at specific incidents to map out the nuanced relationship Boys describes between classroom design, expectations for classroom use, and student groups’ reconfiguration of classroom space to accommodate specific activities.

The laptop section met in a windowless basement classroom, pictured in Figure 12 below. The door stood at the back of the classroom, and the front of the room had an instructor’s table and A/V hookup shelf with ports to connect the teacher’s laptop to the overhead projector. Students could not access the projector screen to share their screens or control the content displayed there. The classroom was specially outfitted for laptop sections of first-year writing, with a wi-fi amplifier to strengthen the signal in the room so twenty-five people could go online simultaneously. Kristy also purchased power strips to
expand access to the handful of outlets in the room, allowing all students to plug in their laptops. Students sat in rows of four facing the projector screen, with a central aisle separating the rows. During the third week of the term, Kristy placed students into six groups of four.\footnote{As Figure 12 shows, there were 7 pairs of tables and only 6 groups. As a result, the seats in the 3\textsuperscript{rd} row from the front on the left side of the classroom were left empty.} Students worked in these groups for the rest of the quarter. Each group had an assigned row, and although students could change seats within the row, they generally sat in the same arrangement once the group-based seating chart was established.
The classroom felt very crowded. Movement in and out of each row was difficult, especially when students plugged in their laptops and cords added a tripping hazard to the tight space between the rows. As Emily, a focal participant from Chapter 2, explained, “I sat next to the wall in my group. And it was kind of cramped trying to get there, especially if my group was there before me. Because I have my backpack and my laptop case, and I’m trying not to hit people. It was sort of cramped.” Although none of the
students had any visible physical impairments or raised any complaints about the classroom’s relative inaccessibility, anyone using mobility aids like a wheelchair or white cane would have had difficulty navigating the classroom. As a researcher I certainly noticed the extent to which students who sat against the walls were relatively buried in their rows in the way Emily describes, unable to move in and out of them without displacing group mates and laptop cords.

The size of the laptop section classroom and the arrangement of its furniture shaped groups’ digital composing work in certain ways. As Kristy explained to the students and in interviews with me, group work was central to her learning objectives for the class, giving students the opportunity to cultivate reading and writing skills and encouraging independence, leadership, and problem-solving. When she placed the students in groups, Kristy told the students she liked to group students together for the entire term because it gave them the chance to get to know each other and each other’s projects, building trust between group members within the class and making group work more efficient, as described in Chapter 3. Kristy explained that placing students into groups of four was a strategic choice: four group members created unequal numbers for giving feedback on drafts, making a majority vote possible.

The physical space of the classroom seemed to obstruct some of Kristy’s goals for group work in ways which will be familiar to teachers and researchers interested in the relationship between classroom space and collaboration. In their study of how the design of classroom computer labs can obstruct instruction and group work, Douglas Walls, Scott Schopieray, and Dánielle Nicole DeVoss propose a framework for identifying
spatial characteristics that interfere with active and group learning in technology-rich spaces. They call teachers’ and researchers’ attention to physical barriers to:

Table 19: Walls, Schopieray, and DeVoss' Barriers to Active and Group Learning Activities (276)

<table>
<thead>
<tr>
<th>Motion</th>
<th>Obstruct people from physically moving in and around the classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration</td>
<td>Discourage idea generation, discussion, and reflection between members of a class</td>
</tr>
<tr>
<td>Senses</td>
<td>Hinder the physical senses or prohibit sensory acuity within a space</td>
</tr>
</tbody>
</table>

These three spatial challenges help describe the relationship between group composing and space in the laptop section classroom. The classroom was fairly shallow for the number of rows it contained, and space between rows was tight. Because the groups were spread out along long, narrow tables, it was difficult for all four group members to communicate with each other during group activities, thus impeding collaboration. As a result, groups could not do very much to decrease the distance or remove visual barriers between members not sitting next to one other. Students could easily speak to or share a laptop screen with an adjacent group mate, but it was difficult for students to communicate with group members sitting two or three seats away. Their lines of sight down the tables were obstructed by other group members and laptop screens, meaning that it was also difficult to spread content across multiple laptops to take advantage of the groups’ combined screen real estate.

In individual interviews, students also repeatedly mentioned noise (sensory interference) as a problem during group composing sessions, for example:
Emily: It was kind of difficult [to talk as a group], especially since when all the groups were talking, I couldn’t really hear that person on the aisle. […] It was kind of difficult, especially when everyone was talking, because it’s like “What? What did you say?”

Laura: It did get really loud, and that was kind of hard. Because you’re all sandwiched together, and you’re trying to talk. You’re a person on the end trying to talk to the person on the other end, and you’re screaming and other people are trying to talk over you to talk to their person. And I think that’s another thing that a bigger room could have helped us on. Because we could have spread it out, and then we wouldn’t have been yelling over top of each other, like “AHH! I’m trying to do this!” And trying to tell people on the other end of the table how to do stuff. Because you can’t get there, especially if you weren’t [sitting] in the middle.

As Figure 13 below shows, the classroom lacked sound-absorbing materials. The absence of curtains, wall decorations, or carpets meant that sound reflected off the room’s many hard surfaces. As the students explain, they had to raise their voices to make themselves heard during group activities, ratcheting up the noise. The fact that the groups were spread out along the long tables also contributed to the classroom’s rising noise level during group composing activities. As Emily, who sat along the wall, comments, the distance between group members seated at opposite ends of their rows encouraged students to raise their voices and made it increasingly difficult to hear in the noisy classroom environment.
The visual and auditory barriers to involving all four members in group digital composing activities encouraged laptop section groups to split into two groups of two, with the group members seated in the middle of the table serving as intermediaries between the pairs when necessary. Splitting up the groups of four Kristy assigned worked against her pedagogical goal of providing each student with three readers who were familiar with their writing. Rachel described how her group split into two pairs for most in-class group composing activities:

Julia: You mentioned that in a lot of the earlier group work, you guys ended up working in two pairs, the two people who were sitting next to each other. Did that just sort of naturally fall out that way, or…

Rachel: I think it just naturally fell that way. Because it was a lot harder for me [to] communicate with Mike and Tyler, so I worked with Brandon and then Tyler worked a lot with Mike. And Brandon and Tyler would just co-collaborate on both sides of the table.

Julia: So they’d be your intermediaries.
Rachel: Sort of. We weren’t like “Oh, we’re going to work in pairs, and then, you two are going to communicate.” It just sort of was easier that way, so that I don’t have to yell down the table.

Figure 14 below illustrates how groups like Rachel’s split into two pairs. Especially for peer review activities for the students’ major writing assignment (the analytical research paper), groups’ tendency to separate into two pairs working side by side obstructed the group dynamic Kristy sought to support group digital composing in the classroom. Groups’ difficulty including all four members may account, in part, for Scott and Laura seeing their group mates, Dustin and Jiao, as peripheral. Dustin and Jiao sat at the wall and aisle edges of their group, and so did not take part in the central group communication Rachel describes going on between the group members seated in the middle of the row.
While the physical and sensory exclusion of some students sitting at the edges of their groups may explain why they participated only marginally in in-class composing activities, the crowded nature of the classroom may also have been a factor. Design theorist Lennie Scott-Webber argues that the crowded conditions of lecture-oriented classrooms like this one can create barriers to small group interaction. She identifies different proxemic zones (degrees of distance between people) that offer different types of sensory information and encourage different types of interpersonal interaction:
Table 20: Scott-Webber’s Proxemic Zones and Their Sensory and Behavioral Attributes (12)

<table>
<thead>
<tr>
<th>Proxemic Zones</th>
<th>Intimate</th>
<th>Personal</th>
<th>Social</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distance</strong></td>
<td>0 inches – 18 inches</td>
<td>18 inches – 48 inches</td>
<td>4 feet – 12 feet</td>
<td>12 feet – 25 feet plus</td>
</tr>
</tbody>
</table>
| **Attributes** | • Vision is blurred  
• Smell and sense of touch are fully engaged  
• Body heat is experienced  
• All senses are heightened | • Normal vision  
• Smell is strong and touching is engaged  
• Body heat is experienced | • Reduction of:  
  sense of smell,  
  ability to touch,  
  visual details  
• Voices get louder  
• No body heat sensed | • Facial expressions and gestures are exaggerated  
• Considered a formal distance |
| **Sensory Information** | | | | |
| **Accepted Behavior** | • Physical contact  
• Kissing, hugging, nursing, or procreation | • Grasping or just touching  
• Holding hands, walking arm-in-arm | • No physical contact  
• Impersonal business occurs  
• Interaction among casual acquaintances  
• Spaces used to screen others out | • No physical contact  
• Formal behavior |

Classrooms like this one place students within each other’s personal, even intimate, zones. This can be uncomfortable for group members who do not know each other well, especially early in the term. Scott-Webber suggests that students can tolerate strangers in their intimate and personal zones by directing their attention to a focal point in social or public space, for example by looking at the teacher at the front of the room (13-14). The contrast between the laptop classroom’s layout and Scott-Webber’s recommendations for classroom design suggests another possible basis for students’ tendency to pair up during
group activities rather than work in the groups of four Kristy assigned. Placed in intimate proximity to each other and separated from other students by laptop screens, distance, and ambient noise, students sitting next to each other may have adopted a more intimate one-on-one style of interaction appropriate to working in adjacent pairs rather than interacting across their rows of four.

*Adapting Classroom Space to Group Composing*

Throughout most of the term, groups’ in-class composing work was shaped by the barriers to full group interaction created by the classroom’s design. The two-pairs compromise allowed group members to answer discussion questions, draft short sample paragraphs, and discuss primary and secondary sources that satisfied Kristy’s expectations for in-class group work. However, on the second-to-last day of the term, Kristy devoted the majority of the 108-minute class period to an extended peer review workshop of students’ paper drafts. Students exchanged drafts, discussed feedback, and circulated comments digitally. During the workshop, students took advantage of the classroom furniture’s mobility, breaking out of their rows of four for the first time all term.

Early in the class period, two students from the group seated at the front of the classroom moved their chairs to the other side of their table, so that instead of sitting in a line of four, their group sat in a two by two square across which all four members could speak face-to-face and share screens, illustrated in Figure 15 below. Observing the first group’s shift to using both sides of their table, two other groups followed. This domino effect, where groups followed each other’s example, is significant because it suggests that the groups observed one another and mimicked each other’s innovative uses of classroom
space. Shifting from rows to squares also required coordination: because they were seated at the front of the room, members of the first group could unilaterally decide to use the other side of their table to sit in the empty space between their table and the chalkboard. Groups sitting in the middle of the room, on the other hand, had to coordinate their movement with the groups sitting around them so that the group squares could alternate, as illustrated in Figure 16 below.

Figure 15: Laptop Section Square Group Configuration

98 The “domino effect” I identify here may also have been influenced by my presence. I noted the row-to-square shift with interest, and students say me documenting the shift with diagrams and photographs, marking it as noteworthy.
Figure 16: Alternating "Square" Groups
While three groups rearranged physical classroom space to work more easily as a group of four, another group used virtual space to communicate across their row of four. During the peer review workshop, Scott suggested that his group try using Join.me to share their drafts (described in Chapter 3). The group members downloaded and installed the free application, and used it to share screens while they discussed their papers, instead of trying to crowd around a single laptop. This group also had a spatial advantage over the other groups: they were seated at the back of the room near the door (see Figure 12), which gave them extra space behind their row. This extra space meant they could “deepen” their row by pushing their chairs backward a few feet, allowing them to create a shallow semicircle that removed visual barriers and shortened the distance between group members. Reconfiguring physical and virtual space allowed this group to negotiate the visual and auditory challenges to group work posed by the crowded, noisy classroom.

The ways these groups changed their use of physical and virtual classroom space during the final peer review workshop indicates the importance of both habits of space use and the potential composing task changes have to disrupt those habits. Throughout most of the term, students adapted their group work to the mobility and sensory barriers created by the classroom’s design. The power the classroom design apparently had to dictate groups’ learning behavior parallels arguments made in educational design literature for the need to cue learning behaviors with specific designs, reflected, for example in Scott-Webber’s typology of layouts design to foster specific types of learning activities, adapted in Table 21 below, reflects these arguments.
Table 21: Environments Designed to Facilitate Specific Learning Activities, adapted from Scott-Webber (44)

<table>
<thead>
<tr>
<th>Environments</th>
<th>Layout</th>
<th>Learning Activities</th>
<th>Learning Behaviors</th>
</tr>
</thead>
</table>
| Delivering   | ![Diagram] | • Bring information before the public  
• Instructor led  
• Knowledge is in one source | • A formal presentation  
• Instructor controls presentation  
• Focus is on presentation  
• Passive learning |
| Applying     | ![Diagram] | • Learning-centered  
• An apprentice model | • Controlled observation  
• One-to-one  
• Master and apprentice alternate control  
• Informal  
• Active learning |
| Creating     | ![Diagram] | • Innovation or knowledge moved from abstract to a product | • Multiple disciplines  
• Leaderless  
• Egalitarian  
• Distributed attention  
• Privacy  
• Casual  
• Active learning |
| Communicating| ![Diagram] | • Share information  
• Provide quick exchange | • Knowledge is dispersed  
• Impromptu delivery  
• Casual  
• Active learning |
| Decision Making| ![Diagram] | • Make decisions | • Knowledge is dispersed  
• Information is shared  
• Leader sets final direction  
• Situation is protected  
• Semi-formal to formal  
• Passive/active learning |

Although laptop section groups could have moved classroom furniture at any point in the term to create a workspace more conducive to their composing work (as Cyprien Lomas and Diana G. Oblinger argue mobile furniture encourages), they did not. Before the
workshop, groups also did not use digital forms of communication (even ones they used for course assignments like Twitter, email, or the course blog) to work around the obstacles the classroom design posed to interaction among all four group members.

I argue that the nature of the peer review workshop as a different kind of group composing activity made visible to students the classroom’s mobile furniture and access to virtual composing space. The other in-class composing tasks groups worked on were small activities that groups had a short time to complete. As Rachel remarked when explaining why her group moved into a square for the peer review workshop but not before: “we had a long time to do the peer review, […] where some of our other activities are maybe like two, three minutes, and then report back, looking at the screen. So moving really would have been sort of a hassle.” The nature and scope of these small activities demonstrated their casual nature, and their brevity discouraged students from rearranging their physical environment. By the time students had moved chairs, laptops, and bodies, the time allotted for small group activities task would have been over.

Conversely, in the peer review workshop, students spent over an hour exchanging comments on full drafts of their major paper for the class, which was worth one third of their course grade. I offer these factors—the scope of the task, its grade weight, and the activity’s length—as reasons why students used classroom space differently during the peer review workshop. The fact that students were required to prepare comments as a homework assignment and turn them in for credit signaled that the peer review workshop

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99 Examples of small in-class group composing activities in the laptop section: explaining the relevance of one of the secondary sources for their paper, examining the grading criteria for the course’s social media project, doing preliminary analysis of a sample primary source in preparation for a full-class discussion, etc. Students typically had 5-15 minutes to work in their groups, usually followed by a class-wide discussion to compare work between groups.
was more important than the small, low-stakes activities the groups engaged in throughout the term. Kristy also emphasized that the workshop was a valuable opportunity to get feedback on their papers, which were due the following week. In order for students to take advantage of the flexibility offered by the classroom’s mobile chairs, the group digital composing activity needed considerable scope and significance, and students needed to have enough time to make their physical rearrangement or shift to virtual space worthwhile.

Laptop section groups re-imagined classroom space as a material resource during the peer review workshop. By changing the way they inhabited the classroom as a workspace for digital composing, they changed it as a material resource, altering its physical configuration and extending the classroom into virtual space in new ways using Join.me. The fact that this change took place at the end of the term contrasts with the gradual naturalizing of spatial constraints that Reynolds describes typically taking place over the course of the term:

> a composition instructor assigned to a tiered lecture hall with bolted-down seats is upset by the room assignment; she must make contortionist changes to the collaborative group practices of the class. However, at some point in the semester, the configurations become so routine that the room assignment is no longer an issue—everyone adapts. Once constraints become familiar—whether they are the desktop of a computer interface or the furniture arrangement of a classroom—they become encoded and thus rarely noticed or questioned. The daily routine elides the process of adapting, and the ideology of transparent space takes over—the idea that space doesn’t matter. (14)

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100 The tables in the classroom were also mobile, although students did not move them during the peer review activity. Given the crowded nature of the classroom, moving tables would have required even more coordination than the formation of square groups because of how close together the rows were. I also speculate that the idea of moving chairs occurred more readily to students because they were already in the habit of moving their chairs minimally behind their rows to turn and face their group members. A useful extension of this study would examine whether and how students move different kinds of classroom furniture to respond to different in-class composing demands.
Although Reynolds’ sample scenario describes a different type of classroom, it illustrates the kind of pedagogical “inertia” Ruth Mirtz argues classrooms can create when their design becomes naturalized. Contrary to Reynolds’ claim that classroom space becomes invisible as it becomes familiar, students in the laptop section did adapt the classroom space to their group work late in the term, after the groups’ digital composing routines had already been established. Rather than the process Reynolds describes of spatial constraints becoming familiar, accepted, and naturalized, I argue that in the laptop section, a change in the nature of groups’ digital composing activity made classroom space visible again, making students aware of it as something affecting their work, something they could change. While Reynolds emphasizes the power of routine, echoing Boys’ emphasis on the power of habits of space use, the changes in the laptop section groups’ use of space during the peer review workshop suggest conditions under which patterns of space use can change.

Another important contrast between the spatial shift I observed in the laptop section AND the narrative Reynolds offers (as well as the negotiation of classroom space and group digital composing described by Frodey and Walls, Schopieray, and DeVoss) concerns who initiates changes in the use of classroom space. In Reynolds’ sample scenario, the teacher is the one concerned about the obstacles classroom design creates to group composing work. In the laptop section, conversely, students noticed their difficulty conversing during the peer review workshop, and four of the six groups in the class acted to change their use of space to create a workspace more conducive to their digital group composing activity. The distinction I make here between teacher- and student-directed tactics for maximizing the affordances of learning spaces aligns with Boy’s argument that
the character of a space is continuously defined by all its users, not only by teachers. It is

certainly true that as professional educators, teachers are especially attentive to the
relationship between classroom space and learning. However, my observations in the
laptop section suggest that novel composing activities can encourage students to reshape
classroom space to better meet task demands.

Community Literacy Course: Nontraditional Students, Nontraditional Classroom,
Nontraditional Project

Compared to the confined space that shaped groups’ composing work in the
laptop section, different physical and symbolic spaces shaped groups’ composing
practices in the community literacy course. Although the laptop section included more
writing in digital environments than the average first-year writing course, its
demographics, location, and curriculum were fairly traditional: traditionally-aged college
students meeting in a classroom on the university campus exchanging (electronic and
verbal) comments on drafts of a written paper. During the peer review workshop, they
exchanged their papers digitally, but—as one student who disliked reading off the screen
pointed out—the activity could have been conducted almost identically using printed
paper copies. The way groups in the community literacy course inhabited classroom and
other spaces, however, suggests how diverse student populations, different physical and

101 First year writing courses at State University all include information literacy instruction, and typically
expect students to submit word processed written work. Instructors of non-laptop sections can use
technology—such as classroom LCD projectors, the university’s course management system, blogs, social
media sites, visual design software, et cetera—as much or as little as they want to. Laptop section
instructors like Kristy, however, commit to having students read and write on their laptops in every class
period. In addition to the first year writing program’s typical digital reading and writing work, Kristy
encouraged students to think critically about their laptops as material digital literacy resources (described
in Chapters 2 and 3). Kristy warned me when I asked her to participate in my study that the course was
“mostly a writing class,” and “not really that digital.” As my analysis throughout this section shows, I agree
with her in part: the laptop section was primarily a writing course, but students did all of their reading and
writing in digital environments.
symbolic locations, and conflicting expectations for space shape the production of workspaces for digital group composing.

Although the community literacy class was designated as a writing course in the university’s general education curriculum, and students composed a significant amount of alphabetic text, its curriculum was more multimodal than the laptop section’s assignment sequence. While the first few class meetings included familiar activities like lecturing and class discussion of readings, the course was focused around the literacy narrative collection and analysis project described in Chapter 3. From the beginning of the term, student groups spent time during class working together to arrange and collect literacy narratives, edit and upload them to online database, and compose their final projects. In addition to working together in the classroom, groups met outside class to interview church members and produce their final projects.

One significant difference between the laptop and community literacy courses had to do with their demographics, which had implications for course work expectations and uses of the classroom space. The makeup of the laptop section was fairly representative of the university’s undergraduate population, which is made up primarily of white, traditionally-aged, fulltime students, many of whom live on or near campus. The population of the community literacy course was very different: more than half the class identified as Black or African American, half of students were non-traditionally aged.

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102 Undergraduate student demographics for race, age, fulltime/part-time enrollment, and residence for the 2011-2012 academic year, see Appendix G: State University Undergraduate Student Statistics.
103 Non-traditional community literacy course members ranged in age from adults in their early 30s to senior citizens. Several of the older course participants were community members, rather than students formally enrolled in the university.
and several worked full time while attending school. Each group included one or more community liaison members, who attended the group’s partner church(es). Although the lead instructor, Lisa, is a white, female English professor, she partnered with two co-instructors, Donna and Sylvia, Black women who attend partner churches and are active in Black community projects. Donna served as the program coordinator for the Center where the class met (more on the Center below) and had worked with Lisa to develop a series of courses working with the local Black community, of which this class was one. Sylvia had participated in one of Lisa and Donna’s previous literacy narrative collection projects, after which they invited her to take on an instructor role in the community literacy course.

The class met one night per week for almost three hours. This meeting schedule was unusual for a second-level writing course, which, as Melissa explained in Chapter 2, may help account for its large number of non-traditionally aged students. The pairing of this unconventional course and its nontraditional population was self-selecting, not


<table>
<thead>
<tr>
<th>Race</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>1</td>
</tr>
<tr>
<td>Black/African American</td>
<td>10</td>
</tr>
<tr>
<td>Asian</td>
<td>1</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship to University</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Member</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>2</td>
</tr>
<tr>
<td>Undergraduate Student</td>
<td>9</td>
</tr>
</tbody>
</table>

104 Because of the small size of the community literacy course (15 student and community participants), the actual numbers of students in each racial demographic category are fairly small:

Although the numbers in question are small, the composition of the class is still an important factor. Unlike most classes on the main university campus (such as the laptop section), most students in this class were not white, fulltime, and traditionally-aged. Along with the other considerations I describe below, the community literacy course’s diversity in terms of race, age, and relationship to the university set the class apart from the run-of-the-mill college composition class.
coincidental. Charlie described several would-be students who attended the first class meeting but never returned:

I noticed that like there were a bunch of people in the first class that didn’t come back. And I was like “Chickens!” [...] I mean, it’s kind of scary for some people to go out, and especially going to a church and going to an environment that you’re not comfortable in. Whereas me, I’ve done things like that already, so I was like “Let’s go.”

The community literacy course was an unusual course that attracted an unusual group of students, which shaped how groups responded to and worked in the classroom where the course met.

**Digital Group Composing in a Community-Based Classroom**

In addition to its curriculum and student population, the community literacy course’s location was also unusual. Whereas the laptop section met in a one hundred seven-year old building standing on State University’s main quad at the center of campus, the community literacy course met four miles from campus at a Community Center operated by the university’s Black Studies department. The Center is in the same historically-Black neighborhood where the partner churches were located. The class met in the Center’s multipurpose room, which is furnished with movable tables and chairs and gets used for everything from meetings to dinners to community events. Lisa specified how she wanted the room set up for the course introduction on the first night, the midterm presentation night, and the final Community Sharing Night. For the other class meetings, Donna set up the classroom based on the activities the instructors had planned. For lecture and presentation days, she arranged long banquet tables in three rows, separated from each other and the walls with aisles, shown in Figure 17 below. On days devoted to group work, Donna arranged the banquet tables along the perimeter of the
room in a U-shape, illustrated in Figure 18, with the occasional round table sitting alongside the U. During class sessions devoted to group work, groups conversed and composed alphabetic and multimodal texts using both laptops and pen and paper. During the class meetings in which groups worked on their final projects, the three groups in the class sat in three distinct areas of the classroom, marked with the three colored areas in Figure 18.

Figure 17: Multipurpose Room Layout for Lecture/Discussion/Presentation Days
Compared to the short group composing activities Kristy nested in the laptop section’s carefully-structured lessons, class meetings during the final project phase of the community literacy course were relatively unstructured. Groups were responsible for using the entire class period effectively without the instructors leading them in or allocating class time for specific activities. As a result, most groups spent these class periods working on their final projects, moving closer to or further from group members within their area of the classroom depending on whether they needed peace and quiet, extra table space, an outlet, or help from a group mate. Group members moved their
bodies, classroom furniture, and digital and print composing tools around the classroom tables freely.

The description I give above outlines some of the differences in location, demographics, and group composing task between the two courses and begins to introduce my argument for why groups in the community literacy course seemed more comfortable moving furniture and bodies to accommodate their cooperative and collaborative composing work. The remainder of this section considers how the two courses’ numbers of students, classroom sizes, participant demographics, course structures, and locations relative to the university also help account for the ways digital composing groups inhabited classroom space.

The mobility, collaboration, and sensory barriers that obstructed group work in the laptop classroom seemed largely absent in the community literacy course. Although both classes were capped at twenty-four, the laptop class was fully enrolled, while the community literacy course had fifteen student and community participants. The difference in the physical size and occupancy of the two classrooms was considerable:

<table>
<thead>
<tr>
<th>Location</th>
<th>Size</th>
<th>Maximum Occupancy</th>
<th>Occupancy during Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Center Multipurpose Room</strong></td>
<td>1630 square feet</td>
<td>80</td>
<td>19</td>
</tr>
<tr>
<td>Community Literacy Course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Central Campus Classroom</strong></td>
<td>530 square feet</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Laptop Section</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

105 The actual number of occupants listed here includes students, community members, instructors, and me.
Community literacy course groups had more space to move around in, and their long class meetings gave them time to arrange and rearrange bodies, furniture, and laptops. As a result, the uses to which the Center multipurpose room lent itself (to use Strange and Banning’s terminology) encouraged community literacy course groups to engage in environment selecting and structuring practices (ESSPs) to support their cooperative and collaborative digital composing work. The multipurpose room had the same kind of hard, reflective surfaces as the laptop classroom, shown in Figure 19 below. In terms of mobility, however, compared to the physically crowded laptop section classroom, participants in the community literacy course had much more space to move around. These factors facilitated groups’ ESSP of staking out separate areas of the classroom for each group. The un-crowded nature of the Center’s multipurpose room also allowed groups to easily move around bodies, furniture, and composing tools, facilitating the shifts between sustained individual and social collaborative work described in Chapter 3. The space in the multipurpose room ample created a different sensory experience than the one produced by the laptop section classroom. The multipurpose room’s relative emptiness and the ease with which group members could cluster around tables to talk and work prevented the buildup of noise that laptop section students noted.
Differences in the two courses’ populations, structures, and tasks also shaped how groups inhabited classroom space. The community literacy course’s population was mixed, including nine undergraduates, two graduate students, and four non-student community members. Compared to the traditionally-aged student population in the laptop course, over half of the participants in the community literacy course (including several of the undergraduates) were working or retired adults. While the day-to-day work of the laptop section followed a fairly typical pedagogy, the structure of the community literacy course was unusual for an undergraduate course. After introducing the literacy narrative collection project at the beginning of the course, the instructor brought in representatives
from the partner churches with which students would be working. The representatives introduced their churches to the class, and groups were assigned to the various churches. Community members joined the students in each group to serve as liaisons between their congregations and their groups. During the first half of the term, the instructors

- led technology demonstrations;
- hosted guest lecturers from the university and partner churches; and
- facilitated discussions about literacy, the Black church as a literacy sponsor, and interview methods.

However, alongside these typical demonstration, lecture, and discussions activities, students worked in their groups to collect literacy narratives and report on them, as described in Chapter 3. The increasing amount of class time devoted to collecting, editing, uploading, and analyzing literacy narratives as the term went on guided class meetings toward becoming increasingly group-, rather than instructor-, directed.

Whereas in the laptop section Kristy planned specific activities and explicitly told students how to spend discreet segments of class time, community literacy course groups were responsible for structuring their use of class time and monitoring members’ progress. I suggest that, in a spacious room, the freedom and responsibility participants in the community literacy course exercised in their classroom work (especially while creating their final projects during the second half of the term), encouraged groups to move freely around the classroom, arranging bodies, furniture, and laptops as they saw fit. Furthermore, since the majority of participants in the course were adults in terms of life and work experience, the instructors treated them as such. Students were responsible for interacting professionally and respectfully with interviewees and managing a relatively unstructured task (see, for example, Appendix E: Community Literacy Course
I argue that the large number of adults in the community literacy course, the “public” nature of their work with interviewees, and the control groups had over their in-class work encouraged them to engage in the ESSPs the multipurpose room’s mobile furniture made possible.

The “community” as opposed to “campus” location of the community literacy course also seemed to influence community literacy course students’ adaptation of classroom space to their group digital composing work. Reynolds examines the mental maps people build of their environments, which show how physical characteristics, human inhabitants, and cultural expectations shape people’s felt sense of where different communities begin and end, and who is welcome where (82-86). In this felt sense, the Center where the community literacy class met is separated from the main university campus. The instructors chose to meet at the Center for both practical reasons (to encourage community members to participate) and for symbolic reasons (to signal the class’ connection to the local Black community). Although the university’s Black Studies Department operates the Center, its distance from the main campus and the building’s door buzzer entry system (which main campus buildings do not have) distinguish it physically and symbolically from the typical State University classroom building.

The Center’s mission is to provide[] community outreach and education programs designed to enhance the educational opportunities of students and improve the quality of life for people who live and work in the neighborhoods near and around the center and the city’s urban communities. Activities such as faculty and student research projects, non-credit courses designed to offer personal and community enrichment, and college classes aimed at non-traditional students provide a valuable context for the university’s commitment to outreach and engagement and research.
Their mission statement uses the Center’s location to emphasize its community orientation. Lisa, Sylvia, and Donna incorporated this symbolic and physical connection into the course by stressing students’ responsibility to the community. Lisa, the lead instructor, explained that in their final projects, students needed especially to speak back to the community…to witness what they’ve learned about the community members and the congregation members to the community members themselves. So it was a way of trying to report back in a respectful and informed way to the people that you asked to help you. It’s a giving back to the community in that sense. […] I wasn’t the only audience. In fact, I wasn’t the main audience. The primary audience for these [final projects] was the community. The students had a responsibility to give back to the community. [emphasis in original]

Students’ comments after the course ended suggest that, as the instructors hoped, they took this responsibility seriously. Nia described her group’s desire to produce a final project worthy of their interviewees: “I wanted the final presentation, to be a tribute to the church. […] They [congregation members] put a lot of effort in, and they put a lot of themselves in the videos. So I had to make sure that it was an appropriate tribute to them.” Being located in the Center underscored the instructors’ reminders that the success of the group projects depended on the goodwill and generosity of church members and that the groups were accountable to interviewees, the involved churches, and the Black church as a larger institution. As a result, the multipurpose room felt unlike a conventional classroom, incorporating aspects of a community center and a professional work environment. The atypical nature of the classroom encouraged groups to adapt classroom space by moving themselves and the classroom furniture around in it.
More than Classroom Design: Group Digital Composing in Distributed Physical Workspaces

Outside of regular class meetings, community literacy course groups also met in other locations to collect literacy narratives and compose their final projects. In this section, I focus on Charlie and Jacob’s group again, tracing the group’s movement across several non-classroom workspaces. I contextualize and analyze the ESSPs their group used in terms of the literature on distributed workspaces for twenty-first century knowledge work.\(^\text{106}\) I draw parallels between the distributed public, privileged, and private spaces in which business consultants and designers like Francis Duffy and Andrew Harrison locate knowledge work and the school, professional, and commercial spheres in which the focal group worked on their digital composing task. The group’s digital composing work parallels the kind of “weightless” production that characterizes work in the information economy.\(^\text{107}\) I argue, however, that corporate design literature does not deal sufficiently with the questions about access that emerge around ESSPs for distributed group digital composing. These access questions problematize the public/privileged/private categories writers like Harrison lay out. Similar to my

\(^{106}\) In *The New Office*, Duffy defines knowledge work as “office work that transcends data-handling because it can only be done through exercising considerable judgment and intelligence” (65). Peter Drucker defines knowledge work as work which creates value “by ‘productivity’ and ‘innovation,’ both applications of knowledge to work” (8). Although Gee, Hull, and Lankshear have objected to the way the term “knowledge work” positions the word “knowledge,” there are clear connections (creativity, the focus on thinking and production of virtual rather than tangible products) between the kind of classroom digital composing work I study here and the kind of corporate knowledge work Duffy and other distributed work researchers describe.

\(^{107}\) In “On Small Tech and Complex Ecologies,” Byron Hawk and David M. Rieder argue that the both the information economy’s means of production and the products information economy workers generate are “weightless” (ubiquitous and infinitely expansible/replicable) because of their virtual nature (xiii). “Weightless, virtualized objects” like the software Charlie and Jacob’s group used to compose their final project and the project text itself “can exist in more than one place simultaneously,” (xiii) which allows for the kind of distributed composing work the group engaged in as they worked collaboratively and cooperatively outside the classroom.
discussion of foraging for digital literacy resources in Chapter 2, in this section I examine how spaces’ affordances for group digital composing work intersect with their physical and cultural conditions of access. My analysis here develops a critical, cross-sphere ESSP approach to accessing workspaces for group digital composing.

Duffy argues that because knowledge work relies primarily on communication and creative production (as did the community literacy course’s digital composing task) information economy workers have “far more control over the timing, the content, the tools, and the place of work,” facilitated by widespread access to material digital literacy resources like computers and Internet connectivity (46). This technology-supported nomadic approach to knowledge work results, he argues, in a “[d]istributed set of work locations (which may be nomadic, mobile, in the office or at home) linked by networks of communication in which autonomous individuals work in project teams” (58). These workspaces will be characterized by

- Multifunctional work settings occupied on an as-needed basis […]
- Multiple shared group work and individual task-based settings.
- Setting, layout, and furniture of office geared toward work process and tasks.
- Focus on mobility of IT equipment used in a wide variety of settings.
- Technology used to support creative knowledge work, both individual and group. (58)

While Duffy focuses on how weightless production in the information economy will allow workers to cooperate and collaborate remotely, Harrison emphasizes the infrastructure that supports distributed workspaces. He describes the characteristics of private, privileged, and public distributed workplaces (130-142) and links each type to a specific function or style of work:
Outside the Center multipurpose room, Charlie and Jacob’s group met in private, privileged, and public spaces. As Table 23 shows, Harrison’s private, privileged, and public spheres map onto the professional, school, and corporate spheres in which I located foraging in Chapter 2. The multiple spheres that fit into Harrison’s private/privileged/public categories foreshadow the critique I begin to outline here and continue in the final case study below.

The spaces for knowledge work that Jeremy Myerson and Philip Ross identify also point to the class privilege typically assumed in research on distributed work: “The nomadic office is geographically distributed across the spectrum of people’s lives—from home and high street to airport lounge and serviced club” (199). This imagery assumes access to expensive and exclusive private spaces, gazed-upon public spaces like the public street, and home offices conducive to knowledge work. As I argued in Chapter 2, conditions of access shape whether and how digital composers can draw on these work...
spaces to support their tasks. Furthermore, individual group members’ access to private spaces allowed Jacob and Charlie’s group to work in spaces other members could not access independently. Group members’ contingent access to these workspaces illustrates the extent to which ESSPs for digital composing must continually adapt to the changing availability of digital literacy resources.

Group members described using ESSPs to strategically select non-classroom workspaces based on their locations and the resources they contained:

<table>
<thead>
<tr>
<th>Location</th>
<th>Task</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Library</td>
<td>• Design slide template</td>
<td>• Availability of computers, software, Internet access</td>
</tr>
<tr>
<td></td>
<td>• Write final project introduction and framing questions</td>
<td>• Familiar location on main university campus</td>
</tr>
<tr>
<td></td>
<td>• Begin drafting individual sections</td>
<td></td>
</tr>
<tr>
<td>Charlie’s High School Classroom</td>
<td>• Design slide template, continued</td>
<td>• Availability of computers, software, Internet access</td>
</tr>
<tr>
<td></td>
<td>• Write final project introduction and framing questions, continued</td>
<td>• Ability to talk freely among group members</td>
</tr>
<tr>
<td></td>
<td>• Begin drafting individual sections, continued</td>
<td>• Familiar location in Center neighborhood</td>
</tr>
<tr>
<td>Sports bar Near Main University Campus</td>
<td>• Exchange interview video files and burn DVDs</td>
<td>• Familiar location near main university campus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Relaxed, fun environment</td>
</tr>
</tbody>
</table>

Jacob explained that their group met at the university library partially because Jackie’s at work [on campus], so she was able to just come right from work or right before work. And I was close enough to campus. And so that was already two members of the group, so that was already half the group. So it was kind of from there. That’s the most convenient place, if you’ve got two people [who] can do the same place, we should all go to that.
The library was a familiar location with computer labs that allowed all members to work in the same room on separate machines, shown in Figure 20 below. The library lab’s design mirrors the “creating knowledge” environment Scott-Webber describes (illustrated in Figure 21 below), providing individual desktop computers for cooperative work and a table around which to collaborate. During this meeting, the group worked collaboratively to write the introduction and framing questions for the final project. As a result, the lab’s design actually posed some difficulties, despite its convenience and the computers it provided. Unlike the movement Scott-Webber’s diagram suggests between the individual workstations and common areas, community literacy course group members stayed at their individual desktop computers while working in the lab. Because the group members need to write and confer at the same time, the combination of individual work stations and conference table in the lab (see Figure 20 below) did not facilitate their work on the final project. Working on separate computers during their meeting made it difficult to write even the cooperatively-assigned parts of the final project in Google Docs:

Jacob: When we got together so we could do the collaborative parts, it proved more difficult. You know, trying to work on your own computer and with somebody at the same time in the same room, it was kind of cumbersome. That was why we met for so many hours that one day, just because it feels like sometimes the computer gets in your way of working with another person, when you’re trying to work collaboratively at once, sometimes it was hard to focus on one thing, or focus on multiple things at once. You have to discuss with somebody else because all the parts of the project are so interrelated, that if I’m doing one part, it affects how somebody else would do another part. While dividing up labor, the work, you have to really work together at the same time. So it’s a lot of simultaneous work.

Julia: The setup you’re talking about is that everybody’s sitting at their own computer?
As Jacob explains, writing in Google Docs as a digital environment prevented group members from conferring about their texts as they drafted them, because group members were tied to desktop computers spread across the room. So although the group selected the library as meeting space because it was a convenient privileged space members could access as university students, they had difficulty structuring it to facilitate their collaborative and cooperative digital group composing work.

Figure 20: Library Computer Lab Where Jacob and Charlie's Group Worked
The group also encountered another problem when they attempted to structure the university computer lab as a distributed workspace for digital composing. In addition to the separate computer workstations, part of what prevented group members from conferring as they composed was the presence of other students in the lab who were irritated by the group’s attempts at conversation. The other State University students using the lab eventually asked the group to leave, reflecting conflicting ideas about what kinds of learning activities are appropriate in library settings.\textsuperscript{108} As Charlie explained, after being asked to leave the lab, the group agreed to meet again in the evening at the high school where he taught:

\textsuperscript{108}“Appropriate” library behavior is a current subject of research and debate at both university and public libraries: librarians and library scientists typically encourage the kind of collaborative group work Jacob and Charlie’s group attempted to do in the computer lab, as well as quiet, individual work, often advocating separate areas with different behavioral rules (see Vondracek; Webb, Schaller, and Hanley; “Library”). Library visitors, however, often expect libraries to be reserved for quiet, individual work only, and many patrons are more vigilant than librarians about policing audible activities like talking and even, in some cases, typing or listening to headphones (see Howard; Zickuhr, Rainie, and Purcell).
Charlie: We met at the library and then we met at my classroom.
Julia: Oh, interesting.
Charlie: Well, it’s [the high school] central.
Julia: Oh, because it’s near the Center.
Charlie: And it’s easy to get to. Like the high school and the university, they’re two central places. Plus in my classroom, I had access to things like the Internet. And we could talk. One of the things, one of the problems [laughs] we got in trouble in the library for talking. I’m like “We’re doing a group project. We can’t…”
Julia: “We can’t not talk.”
Charlie: Right. So that’s kind of why we went to my classroom, because we had the Internet, and we could talk and not worry about offending someone.

Charlie’s classroom provided the material digital literacy resources the group needed (a place to talk with Internet access), without other occupants to regulate their use of the space. As a school employee, Charlie could let the group into the building after hours, allowing them access to a private space he could enter as an employee but from which other group members would normally have been excluded.

The group sought out workspaces for cooperative and collaborative digital composing based on the material resources the spaces contained and the group’s beliefs about appropriate behavior in those spaces. The conflicts group members had with other library patrons indicate some of the complications that arise in a distributed work environment when different inhabitants have different beliefs about how a space should be used. When the same spaces are being used by strangers doing different types of work, tensions over ways to inhabit the space can threaten the viability of distributed work.

Fortunately, the group had access to roughly equivalent material digital literacy resources at Charlie’s high school. Their after-hours use of Charlie’s classroom, a private space, suggests the extent to which composing digital texts in distributed workspaces depends
on resources from multiple patches to which individual group members have unequal access.

At the end of the course, the group met one last time to exchange video files to create a DVD for each interviewee of their literacy narrative. Since they only needed to meet briefly and because it was the end of the term, the group decided to meet at a sports bar near campus:

Julia: But then you guys had to meet again to exchange the files, and you met at the sports bar.
Charlie: Yeah.
Julia: How come?
Charlie: Because we wanted beer. [both laugh]
Julia: So did you just get together and exchange the files?
Charlie: Yeah. And then we had some beers. […] It was nice.

Jacob added that the group sentiment was “it was a convenient [for] Jackie from work [on campus], my apartment’s like a block away […] we were just like, ‘I don’t want to go to the library. We just need to relax. We just need to talk, talk about stuff, get these files traded.’” Charlie’s comments illustrate the ESSPs the group used to choose the location for their final meeting: for this easy, light-hearted group work session in which they only needed to exchange video files and burn a DVD, the group met in a social space where they could pass the time while burning the DVDs by having a drink.

Their choice to meet at the sports bar reflects both physical and social ESSPs. The seating arrangement around the table at the sports bar reflects what Scott-Webber calls a “communicating knowledge” environment, shown in Figure 22 below. She argues that workspaces like this facilitate the organization and delivery of information in a casual, egalitarian environment where knowledge is dispersed among participants and conversation is unstructured (44). Being seated around a table like this allows for good
visibility of all members (indicated by the triangle in Figure 22) and creates intimate or personal zone contact among group members who have been working together all term (indicated by the circle in Figure 22) (118). As Jacob’s and Charlie’s comments suggest, the atmosphere of the sports bar also appealed to them, contrasting sharply with their experience at the library. The sports bar is also a public commercial space with access restrictions. Because all group members were over twenty-one, the bar’s age requirement did not pose a problem. But as a business, the space is only accessible to paying customers. Furthermore, although this did not come up for the group, meeting at a bar raises concerns about who might feel (un)comfortable at an establishment that sells alcohol and which can be crowded with boisterous sports fans.

Figure 22: Scott-Webber's Layout for Communicating Knowledge (118)

Seeking out non-classroom spaces for group digital composing added material literacy resources to their task. The group’s inclusion of privileged spaces (university
library), privates spaces (Charlie’s classroom), and public spaces (sports bar) demonstrates one way digital composing groups can distribute their work across a variety of spheres. The variety of spheres group members drew from points to the extent to which student digital composers’ activities outside the classroom—work and leisure, for example—gave them access to spaces that became material resources to support the group’s composing task. The group’s conditions of access to these private, privileged, and public spaces illustrate the degree to which distributed work depends on literacy resources drawn from other spheres. Charlie’s classroom, in particular, highlights access issues associated with using distributed workspaces to support group digital composing. If the group had not been able to relocate to his classroom, where would they have found not only Internet access but also computers for group members without laptops to use? Charlie’s and Jacob’s thoughtful comments about their group’s reasons for choosing these composing environments indicate the complex ESSPs that guided their group’s approach to material digital literacy resource networking. But the conditions of their access to these spaces illustrate the burden distributed digital composing work places on group members to seek out necessary material resources across family, professional, and public spheres.

In the classroom and outside it, community literacy course groups demonstrated sophisticated ESSPs that took advantage of the open, flexible space in the Center’s multipurpose room as well as digital composing environments located elsewhere in the university and surrounding city. Groups in this course could exert considerable control over the multipurpose room by arranging themselves and the furniture in a working environment characterized by group autonomy, connection to the community, and
physical mobility. Groups’ responsibility for structuring and supporting their composing task increased when they moved out of the classroom and into distributed workspaces. Like the ESSPs that encouraged the student groups to occupy distinct areas of the classroom, Charlie and Jacob’s group sought out other spaces whose material digital literacy resources supported their work. The adjustments the group had to make, shifting from the library to the high school classroom and contrasting the library and the sports bar indicate the central role space plays as a material resource for group digital composing. Their experience also suggests how conflicting expectations about how spaces should be occupied challenges the “work from anywhere” rhetoric of the distributed workplace. Community literacy course groups’ experiences composing digital texts in- and outside the classroom suggest ways in which pedagogy and space can complement each other. But they also highlight the need to think about the production of space as students select and (attempt to) structure non-classroom environments for digital composing.

Josh and Chris: Practices for and Questions about Group Digital Composing in Distributed Workspaces

My discussion of how Jacob and Charlie’s group distributed their composing task focused on the private, public, and privileged physical workspaces they used, which were located in members’ school, work, and corporate spheres. Although the group used Google Docs to compile their final report text, they did not use it to collaborate virtually in real time. SL contributors like Josh and Chris, on the other hand, used Google Docs and other virtual composing environments to compose collaboratively and cooperatively. They also arranged face-to-face work meetings to collaborate in ways their virtual
composing environments did not facilitate. Harrison’s private/privileged/public typology of workspaces also includes virtual spaces (described below). But he warns that virtually connecting distributed physical workspaces may not convey the variety of (in)explicit information and resources which face-to-face meetings in physical workspaces facilitate (140). While Joe Aki Ouye argues that organizations with distributed workforces can use social media and video conferencing strategically to connect members of distributed working groups (9), these measures can only do so much to build working relationships between colleagues who never/rarely interact face-to-face. Such structured interaction, although casual in tone and designed to cultivate the kind of trust between group members Myers-Breslin argues for, can only do so much. Harrison warns that “The socialization of knowledge-promoting and the direct exchange of ideas through conversation and other interaction speeds up the exchange of knowledge” (140). As a result, although periodic virtual check-ins like the ones Josh and Chris describe below work to circulate some information among group members, their experience suggests that planned periods of face-to-face work (like Ouye recommends) are essential for the kind of casual, collegial interaction that encouraged Josh and Chris to invest in their composing task and deal with the frustrations that arose while working on it:

Chris: Being proximal was just, I don’t know…we probably could have done it just like this [using Skype].
Josh: Probably. But it wouldn’t have been as much fun.
Chris: We had way more fun, yeah.
Josh: Or we couldn’t have gotten out our frustrations in as satisfying a way, I think. Being able to be like “This shit sucks!” and, you know, kicking the wall and “I’m taking a smoke break.” Having those kinds of opportunities with a partner, with a buddy, I think was a little more healthy than just staying cooped up in my office the whole time.
Ouye and Harry Gatterer argue that this kind of social interaction around the task is essential to help distributed workers connect with each other and invest in their work.

Josh’s and Chris’s ESSPs helped structure their composing task, distributing their responsibilities in time and space according to the material resources available in different work environments. They chose workspaces based on their ability to provide access to the Internet, computing power, and digital production software. Distributing their composing work this way, however, depended on access to physical and virtual spaces located in workspaces in Josh’s and Chris’s family, professional, and corporate spheres,109 gesturing again to the access concerns Jacob and Charlie’s group experienced. The central role played by virtual composing and communication environments in Josh and Chris’s case also reflects the “nomadic” extension of distributed work Ross describes, “the logical conclusion of a technology-driven trend to liberate work from the workplace” (145). Digital composers like Josh and Chris rely extensively on cloud-based applications, using laptops as portable material resources they can use to access their digital texts across multiple locations.

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109 For reference, in Chapter 2 I define family, peer, school, professional, public, and corporate spheres as follows:

- **Family**: Places, relationships, and activities that connect individuals to members of their immediate and extended families.
- **Peer**: Places, relationships, and activities that connect individuals to friends and acquaintances on the basis of shared interests and/or personal compatibility
- **Professional**: Places, relationships, and activities that connect colleagues on the basis of shared work or work interests
- **School**: Places, relationships, and activities that connect individuals to formal educational institutions
- **Public**: Places, relationships, and activities that connect members of the general public, not defined by specific interests, experiences, or goals
- **Corporate**: Places, relationships, and activities related to being a consumer of a product, especially one made by a for-profit company.
Reflecting SL contributors’ greater responsibility for accessing digital literacy resources to support their composing tasks, Josh and Chris worked in a variety of virtual and physical spaces, summarized in Table 25 and analyzed in depth below:
Table 25: Josh’s and Chris’s Workspaces for the SL Composing Task

<table>
<thead>
<tr>
<th>Composing Environment:</th>
<th>Digital Composing Task Activities: (^{110})</th>
<th>Category in Harrison’s Typology:</th>
<th>Sphere Location (My Typology):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skype</td>
<td>Real-time, virtual face-to-face check-ins</td>
<td>Private/Privileged/Public</td>
<td>Corporate</td>
</tr>
<tr>
<td>Dropbox</td>
<td>Exchange large (video) files</td>
<td>Private/Privileged/Public</td>
<td>Corporate</td>
</tr>
<tr>
<td>Google Docs</td>
<td>Cloud-based text composing platform(^{111})</td>
<td>Private/Privileged/Public</td>
<td>Corporate</td>
</tr>
<tr>
<td>Prezi</td>
<td>Cloud-based multimodal composing platform(^{112})</td>
<td>Private/Privileged/Public</td>
<td>Corporate</td>
</tr>
<tr>
<td>Home</td>
<td>Josh: Did simple multimodal edits</td>
<td>Private</td>
<td>Family</td>
</tr>
<tr>
<td></td>
<td>Chris: Worked in home office until it was too hot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Computer Lab</td>
<td>Josh: Worked in campus media lab when not in use as a classroom</td>
<td>Privileged</td>
<td>Professional</td>
</tr>
<tr>
<td>Campus Office</td>
<td>Josh: Worked on Google Doc and Prezi, sent project-related emails</td>
<td>Private</td>
<td>Professional</td>
</tr>
<tr>
<td>National Security Center Computer Lab</td>
<td>Video editing and production</td>
<td>Private</td>
<td>Professional</td>
</tr>
</tbody>
</table>

\(^{110}\) Unless otherwise indicated, both Josh and Chris engaged in the type of composing work listed in the right column.

\(^{111}\) Although Google Docs are designed to allow simultaneous editing of a cloud-stored document, at the time Josh and Chris were drafting their SL exhibit text in the summer of 2010, they were unable to work simultaneously in the Google Doc without overwriting each other’s changes. Current (2013) versions of Google Docs automatically refresh more frequently to better support simultaneous editing by multiple users.

\(^{112}\) Even more so than Google Docs, the interface and capabilities of Prezi have changed dramatically since the summer of 2010 when Josh and Chris composed the bulk of their exhibit. In addition to far more limited editing and media embedding options than the current version offers, Prezi in 2010 did not allow collaborators edit a document simultaneously. Even though it was technically possible to share a Prezi project and “meet” (work simultaneously) in it, Josh and Chris reported that when they tried to do this, Prezi would crash and their work would be lost.
The different composing spaces Josh and Chris used and their private/privileged/public conditions of access (given their locations in family, professional, and corporate spheres), raise questions about who provides support for lengthy, production-heavy group digital composing tasks. What role do material literacy resources (like the computers and software Josh describes) play? What kinds of composing work are supported by the spaces Chris describes, where he can plug in and connect to the Internet when he does not want to work from home? Who should provide these spaces (which are themselves material literacy resources) and the hardware, software, and infrastructure (additional material literacy resources) found in them?

Harrison’s public/privileged/private continuum seems to presume that private spaces will provide resources public and privileged spaces do not. Ouye describes how businesses are increasingly providing “collaboration platforms” that connect distributed knowledge workers via email, document sharing, group storage space, audio/video conferencing, instant messaging, data sharing, and availability detection (3). University employers provide collaborators like Josh and Chris with email, cloud-based storage space, and some of the other collaborative applications Ouye describes through course management systems and university IT services. But because Josh and Chris work at different schools, they could not use the kinds of in-house collaborative tools Ouye mentions. Instead, these faculty coauthors turned to corporate digital composing and communication environments like Skype, Google Docs, and Dropbox to work on their exhibit. As Table 25 above shows, Harrison’s workspace typology breaks down around these spaces, foreshadowing some of the concerns about security and privacy that composing and communicating in these kinds of corporate virtual spaces.
distributed group composing process highlights questions about access to and ownership of workplaces for nomadic distributed workers. As the differences between Josh’s and Chris’s distributed workspaces suggest, the nature of these work spaces varies and the material literacy resources they provide vary considerably.

While working on their collection exhibit, Josh was an assistant professor at a regional campus of a large Midwestern research university, and Chris was working as a fellow at the National Defense Center in a large city in a neighboring state while writing his dissertation. Both Josh and Chris teach and study composition, especially multimodal composing, and in their shared interview they described meeting at a conference several years earlier and going on to form a multiplex peer and professional tie. Unlike the student digital composing groups, Josh and Chris spent very little time working together face-to-face on their project. Because they lived one hundred eighty miles apart, they did most of their collaborating in online spaces, supplemented with occasional face-to-face working weekends in Chris’s hometown (similar to Diane and Claire’s situation in Chapter 2). Josh and Chris used Google Docs extensively to compose the written text for their exhibit. However, they encountered problems using the software collaboratively: when one person was working in the Google Doc, the other person could not see the changes that had been made without continually refreshing the page. As a result, Chris explained that when he opened the Google Doc and saw Josh working in it, he would exit and come back later to avoid overwriting content Josh was drafting.

As they began to compose their multimodal exhibit, Josh and Chris used the cloud-based media locker service Dropbox to exchange image and video files and created their exhibit using Prezi (like the SL focal group in Chapter 3). Dropbox worked well to
cooperatively structure the multimodal composing work for video production and exhibit composition phases of their project: Chris did the majority of the video production, and Josh, the designated Prezi expert, retrieved the video files from Dropbox and inserted them into the exhibit he constructed in Prezi. Prezi, another cloud-based digital composing environment, presented collaboration challenges similar to Google Docs. Even though Josh and Chris could both access their exhibit at the same time, they risked crashing the application when they worked on it simultaneously. So Josh and Chris learned to work cooperatively, rather than collaboratively, in both Google Docs and Prezi.

Aside from technical difficulties Josh and Chris encountered composing in Google Docs and Prezi, which were relatively new at the time, the conditions of access to and ownership of these cloud-based platforms raise questions for Ross’ vision of the nomadic office and Harrison’s typology of distributed workspaces. Unlike the situation Ouye describes in which employers provide virtual environments to facilitate collaborative knowledge work, Josh and Chris foraged for digital composing and communication platforms in corporate spheres. A digital text created in a corporate platform like Prezi has complicated relationships with Prezi, its composers, the composers’ employers, and the press that published the edited collection. Google Docs

113 A fully-fledged, non-beta version of Google Docs was first introduced in 2009 and its use was starting to become widespread in 2010 when Josh and Chris began work on their exhibit (“Google Docs”). Similarly, Prezi was launched in 2009, and began popping up in classroom and conference presentations in 2010. Josh and Chris joked in their interview about how Josh, in particular, is an inveterate early adopter who loses interest as soon as the bugs have been worked out of a new application. Chris stated that if he had been the one working in Prezi, he would have given up and built the exhibit as an .html document. The long-standing interest and investment Josh, in particular, had in digital composing and software experimentation seems to account, in part, for their group’s willingness to work through the technical difficulties Google Docs and Prezi presented.
and Prezi are both publically-available products, offering free, basic, password-protected accounts and paid accounts with more features and additional storage capacity. They are owned by private companies and accessed through individual user accounts that are not tied to Josh’s and Chris’s academic employment. The fact that these cloud-based composing platforms are owned by corporations alarms some people who resist the idea of a for-profit company being in possession of their work (see Whittaker, Peckham, Maltais). Others worry about confidentiality, especially with Google Docs, which (like other Google products) is notorious for mining users’ data to support their “free” services by selling that information to advertisers.

Similarly, it is difficult to fit digital composing environments like Google Docs, Dropbox, or Prezi into Harrison’s private/privileged/public framework. These cloud-based applications are:

- **Private:** in the sense that they have passwords
- **Privileged:** in the sense that they allow file sharing between users based on invitations to view or edit content
- **Public:** in the sense that the composing environments are freely accessible to anyone who signs up for an account

Although users can control privacy through account settings and invitations to share content, the corporations who operate these sites and store users’ data control access to cloud-stored content. Durability of and access to cloud-stored content is a particularly serious concern for academics like Josh and Chris because of the length of time scholarly projects take to complete and the professional need to archive past work. Two and a half years passed between the time Josh and Chris’s proposed exhibit was accepted to the SL

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114 As McKee notes, the terms of service for web 2.0 platforms like Google Docs, Prezi, Twitter, Facebook, and other applications are notoriously opaque and can be changed without warning users.
collection and the time contributors submitted the final published versions of their exhibits. If Google or Prezi had experienced a server malfunction, gone out of business, or been accused of criminal activity during that time, Josh and Chris’s content could well have been lost. Furthermore, as academics rather than students, Josh and Chris are expected to archive their work to build permanent professional dossiers, which server malfunction, bankruptcy, or litigation at Prezi or Google could compromise.¹¹⁵

My discussion of the private/privileged/public aspects of cloud-based digital composing environments is not intended to unilaterally discourage the use of “free” corporate-owned composing platforms like Google Docs and Prezi. However, compared to Ross’s and Ouye’s valorization of the nomadic office and clear delineation of the various types of workspaces that comprise it, coauthoring digital texts in virtual composing environments is laden with technical, philosophical, and even legal questions. The issues surrounding virtual workspaces for distributed digital composing in academic (rather than business) contexts demonstrate how the models derived from knowledge work do not fully address the experience and concerns of faculty and student digital composing groups. Stuart A. Selber, Heidi A. McKee, and Doreen Starke-Meyering draw attention to the problematic conditions of access, privacy concerns, and intellectual property questions that arise when digital composers (especially students) work in these web 2.0 environments. And while all three researchers propose critical pedagogies designed to make students aware of the ethical issues and risks associated with

¹¹⁵ Both Google and Prezi do allow users to download offline copies of cloud-stored content. Google Docs can be downloaded as .pdf (read-only) files or .doc (writable) files. Prezi documents can be downloaded as read-only flash objects (using free or paid account) or as proprietary .pez files (paid account-holders only, can only be opened using Prezi Desktop proprietary software). Once downloaded, these files no longer allow the kind of long-distance collaboration and cooperation Josh and Chris engaged in. The files must be cloud-stored, with all the risks that entails, during the group composing process.
composing in corporate virtual spaces, Selber’s “build your own” alternative places additional production responsibilities on composing groups.\textsuperscript{116} McKee’s recommendation that students move from corporate to open-source software (287) may offer a compromise between the ease of corporate products like Google Docs, Dropbox, and Prezi.\textsuperscript{117} However, open source platforms for virtual collaboration can still pose privacy risks, unless students use their own computers as servers. And, as McKee notes, students who are used to the interface design of popular corporate applications may be discouraged by the unfamiliar and sometimes-clunky design of open-source alternatives.

Even though Josh and Chris could compose in cloud-based environments like Google Docs, Dropbox, and Prezi anywhere they had Internet access, physical workspaces still played an important role in structuring their task. Although they composed their exhibit using publically-available cloud-based applications, Josh and Chris used propriety software like Photoshop and FinalCut Pro to create the media for their Prezi. As a result, the different locations from which Josh and Chris telecommuted affected their access to these cloud-based resources. As Josh explains,

\begin{quote}
at the time, my [campus] office was not very conducive to doing graphics-based work, like Photoshop and whatnot, in large part because my office computer at the time was at the end of its life. And so primarily it was just an Internet box. […] at the time, any work I did in my office, for example,
\end{quote}

\textsuperscript{116} Building their own virtual collaboration environment would have called on additional web development skills students in the community literacy course did not have. Although Josh and Chris could have built their own version of Google Docs, doing so would have added the kind of development work Jim describes deliberately avoiding in Chapter 3.

\textsuperscript{117} Examples of currently-available alternatives to corporate cloud-based digital composing environments:
\begin{itemize}
\item Google Docs: LibreOffice (a cloud-based offshoot of OpenOffice), OX Text, eyeOS
\item Dropbox: sparkleshare.org, Tarsnap, Seafile, Syncany, ownCloud, RetroShare. These applications emphasize that they do not control (or in some cases, even see) users’ data, and therefore provide the kind of privacy McKee argues for.
\item Prezi: impress.js, infinite canvas, Sozi, reveal.js, dizzy.js
\end{itemize}
was textual. I would go into the Google Doc, or go into the Prezi, or maybe shoot off emails related to the project.

Josh contrasts the work he could do on the project in his campus office with the work he did on his home computer and in campus computer labs: “coming home, [I] have access to Photoshop and stuff, so I tend to use that space. […] I would also, on my campus, take advantage of our classroom spaces if they were empty and stuff, and sometimes do some work in there.” His work is distributed across multiple physical spaces, primarily based on what software he has access to in a given location. This seems to reverse the environment selecting and structuring practice (ESSP) trajectory Prior and Shipka describe. Instead of choosing or tailoring a composing environment according to the work he needed to do, Josh selected parts of the exhibit task to work on based on the material digital literacy resources available in physical spaces. For a large, long-term project like this, Josh’s strategic distribution of work makes sense. While working on the exhibit, he was also keeping up with his teaching and service responsibilities as a professor. Work on the exhibit fits into his existing schedule, which directs him to work on campus during the days and at home on nights and weekends. Josh worked on what he could, depending on the material digital resources available in his university office, campus computer labs, and his home.

Chris described a different nomadic approach to distributed work, where he stayed on the same computer as he moved between different workspaces:

I worked at home until my home office was too hot to work. [Josh laughs] I just environmentally couldn’t stay in there. But I used the same machine for almost everything. So no matter where I physically was, I had my MacBook. […] I would work on that everywhere.
Chris’s description of his stable composing environment mirrors Ross’ idea of the nomadic road warrior who can work anywhere with an outlet and an Internet connection. Chris’s comments, however, about the heat that forced him out of his home office during the summer bring up embodied spatial considerations Ross does not address. Certainly a nomadic worker saves his employer the cost of renting, furnishing, and heating/cooling an office building, accounting, in large part, for distributed work’s appeal to employers (see Katsikakis). But where does a nomadic worker work? As a research fellow (described below), Chris had access to private office spaces that powered his laptop and connected him to the Internet, allowing him to work in comfort. However, Chris’s use of private workspaces illustrates the complexity and contingency of the material resources that support distributed nomadic knowledge work.

Although Josh and Chris only worked together face-to-face a few times, they used Skype video chats to check in with each other remotely. As Josh explains, after a full day of teaching, he would be too drained to do mentally taxing composing work on the exhibit. However, the project also included a lot of production work (like video rendering) that, although not intellectually demanding, was time-consuming. Josh and Chris described Skyping between face-to-face meetings to coordinate production work on media assets for their exhibit:

Josh: There was at least a stretch where we were working, where it was kind of like a series of action items.

Chris: Mmhmm.

Josh: “So, Chris, tonight when I get home, I’m going to do this little thing, this little thing, this little thing.” And then Chris would be like “Well I’m going to render these two videos. I’m just going to set up my laptop to do it, and just let it run all night until it gets done.” And so we tried to incorporate that into our workflow, acknowledging that we probably a) didn’t have the synapses to rub
together that would do serious intellectual work during the week. [Chris laughs] So why not take advantage of those down-cycle moments to do kind of menial tasks related to the project? And I think it worked well mostly.

Chris: Yeah, and Skype, I think, worked well to convene really quickly.
Josh: Mmhmm.
Chris: Like “Here we are. OK, boom, boom, boom.” I think there were even some points where we were using Skype to screen-share.
Julia: Oh yeah.
Josh: Oh yeah.
Chris: To look at drafts of the individual frames and I think those eight-bit characters, and some of the titling.

Skype provided a way for Josh and Chris to discuss what each of them was doing using semiotically rich video chat, rather than email or phone. It also allowed them to literally show each other what they were working on using Skype’s screen sharing function. This was important, Chris explained, for designing visuals like the graphic avatars who represent Josh and Chris in their exhibit, the layout of certain Prezi frames, and the appearance of title text. Josh worked in Photoshop to create the avatars and in Prezi to design frames and text, showing prototypes to Chris via Skype screen sharing to collaborate on their exhibit’s visual design.

Video chat and screen sharing are important communication tools for distributed composing groups, since they allow for quick, real-time discussion of projects-in-progress. Scott-Webber argues that members of knowledge work teams need to be within thirty feet of each other (within earshot and easy walking distance) to work together effectively (59).118 She explains that working in such close proximity allows group members to collaborate by

118 The knowledge creating work environment depicted in Figure 21 is designed to foster this kind of work. Scott-Webber’s 30-feet rules suggests the physical dimensions she envisions for this kind of cooperative/collaborative workspace.
interacting face-to-face in real time, which provides paralinguistic information that conveys information efficiently and helps avoid miscommunication and

• sharing ideas-in-progress directly and immediately, which allows coworkers to brainstorm about them in real time. (58)

However, Josh and Chris’s use of Skype suggests that video and screen-sharing can stand in for the kind of physical proximity Scott-Webber mandates. Although Skype does not allow for the spontaneous discussion Scott-Webber’s co-present workplace enables (unless both partners are logged into Skype), it does allow for the kind of linguistic and paralinguistic communication in real time and sharing of digital work-in-progress which Scott-Webber identifies as central to the kind of collaborative knowledge-creation that characterizes digital coauthorship.

Josh and Chris also met for the weekend in Chris’s hometown to work at the National Security Center, the research institute where Chris was a fellow at the time. The particular affordance this space had for them was the Security Center’s computer lab, which contained computers running FinalCut Pro, the high-end video production software Josh and Chris used to create the videos for their exhibit. Because large video files like the ones they worked with take several hours to render, Chris took advantage of the processing power available across the Center lab’s many computers by distributing the rendering process across multiple machines. Distributing the computing work in this way also reduced glitches in the rendering process: because video rendering is so demanding of the computer’s processor, it can crash a single computer, especially if that computer is also running other programs at the same time. This meant that if Chris was rendering videos on his personal laptop, he wouldn’t want to risk doing anything else on it to avoid overtaxing the processor and causing it to crash, forcing him to re-start the
rendering process. Doing video work in the Center’s lab using distributed rendering meant that Chris and Josh could use other computers to work on other aspects of the project (such as the text, graphics, and Prezi) while waiting for videos to render, without risking losing any work. Beyond the way groups in the community literacy course spread out across the multipurpose room, distributing video rendering across multiple computers let Josh and Chris take advantage of virtual as well as physical dimensions of the Security Center’s lab. With ample physical space and abundant computer processing power, Josh and Chris could alternate between working individually and conversing about the project, facilitated by their access to the empty lab.

The role the Center’s material literacy resources (computers and software) played in supporting Josh and Chris’s digital composing work reintroduces questions about access to private workspaces. Their access to the Center, a secure facility operated by the Department of Homeland Security, was contingent on Chris’s fellowship there. The FinalCut Pro software Chris used, and the lab environment that facilitated the distributed video rendering, are specialized material digital literacy resources usually not available in public spaces offering computer access (like libraries) because of their high cost and limited audience. Although Ross and Harrison do not argue that privately-owned, employer-financed workspaces should disappear, their arguments about taking advantage of public and privileged physical and virtual workspaces to minimize reliance on private, employer-provided workspaces means that it is important to highlight the critical role the Center played in Josh and Chris’s work on their SL exhibit. My discussion of questions about the accessibility, reliability, and ownership of the virtual composing environments Josh and Chris used draws attention to the factors that shape digital composing groups’
environment selecting and structuring practices when working together at a distance.

Access to private workspaces like the computer labs at Josh’s university and the Security Center depends on institutional membership, which is restricted at these kinds of educational and professional institutions. Their use of these labs as material digital literacy resources is conditional on Josh’s university employment and Chris’s fellowship, illustrating the contingent nature of access to these kinds of workspaces.

**Conclusion: Understanding Group Digital Composing within and across Spaces**

As student and faculty participants’ selection and structuring of physical and virtual composing environments suggests, space plays an important role in group digital composing work. This chapter builds on work in composition and learning space design that describes the production of space and examines the interaction between physical and virtual features of a composing environment, beliefs about how to inhabit that environment, and groups’ composing processes. The classroom and distributed workspaces I examine in this chapter begin to illustrate the variety of locations in which student and faculty digital composing groups work. Their experiences highlight the affordances and constraints of these spaces and demonstrate groups’ creative adaptations of work processes and workspaces. The digital composing groups’ ESSPs position space as a material digital literacy resource they seek out to facilitate specific composing activities and to access additional literacy resources. These physical and virtual workspaces are located in the family, school, work, and corporate spheres that make up the literacy ecologies in which members are embedded. They illustrate the role professional, social, and educational capital and experience play in providing access to digital composing spaces, in addition to the other material and intellectual digital literacy
resources group members access through these spheres (described in Chapters 2 and 3). Two major sets of conclusions emerge from this chapter, informed by lenses drawn from research in composition, educational design, and corporate knowledge work. One relates to supporting group digital composing in classrooms. The other questions the extent to which digital composing work outside the classroom functions as nomadic, distributed knowledge work and considers how it should be supported.

Spatial Implications for Classroom-Based Digital Group Composing Work

The relationship between design, habits and expectations for space use, and the nature of the composing task in the laptop section, in particular, demonstrate the extent to which space is an important, but not wholly determining, influence on group digital composing work. While scholars influenced by cultural geography emphasize that the people who inhabit a space produce that space through their behavior in it, digital composing groups in the laptop section and community literacy course demonstrate how this actually happens. The mobility and relative sensory neutrality of the Community Center’s multipurpose room fostered groups’ strategic use of the classroom as a team-based project work space, allowing group members to shift easily between individual work and consultation with group members to create a knowledge-creating environment. The way community literacy course groups took up the space of the classroom aligns fairly neatly with arguments that connect student comfort and ownership of classroom space to their ability to arrange people, furniture, and composing tools to support their group digital composing task.

Groups in the laptop section, on the other hand, tended to take the pedagogical cues built into their classroom’s layout, even when they interfered with group composing
work. During small, low-stakes group activities, students worked within their classroom’s restrictive layout. When the scope and stakes for group work tasks increased during the peer review workshop at the end of the term, however, several groups responded to the constraints imposed by the classroom’s narrow rows by rearranging the physical environment or taking advantage of virtual space. The contrast between the peer review workshop and previous digital composing activities encouraged groups to apply a different set of space-inhabiting practices to their group work that day. This reconfiguration of classroom spaces suggests the power new activities can have to unsettle the classroom habits into which classes. “Game-changing” activities can potentially invigorate a course whose group work dynamic is flat or problematic.

Another dimension of the classroom-specific spatial arguments and observations I make here has to do with perspective. Most research on the relationship between space and pedagogy focuses on instructors’ deliberate efforts to arrange classroom space or student bodies within it to encourage collaboration and active learning (see Meeks; Fleckenstein, Johnson, and McKinney; Frodey; Grego and Thompson; and Walls, Schopieray, and DeVoss). My analysis of the relationship between space and group digital composing in the laptop section and community literacy courses, however, takes up Mirtz’s call to focus on how students structure their group work to meet task expectations and negotiate the affordances and constraints of classroom space. This distinction is important because of the responsibility and agency it assigns to students. Although instructors certainly consider the relationship between space and learning in their classrooms (as the teacher who observed me as a brand-new teaching assistant urged me to do), teachers and researchers should keep in mind that students also inhabit
(produce) classroom spaces. While some studies have examined how students physically move through and appropriate non-classroom school spaces (see Knobel, Vinson), I argue that student (as well as teacher) production of classroom space significantly shapes group composing work.

In order to facilitate strategic uses of classroom space like the students in the community literacy course and laptop section engaged in, teachers can draw students’ attention to classroom space through metacognitive exercises, similar to the ones I outline in Chapter 3. These exercises will work best in stable groups, where students get to know each other and can establish patterns of group composing over multiple class sessions. After students have completed a few low-stakes group composing activities, ask them to individually answer a series of questions about how the group works together in the classroom.

1. Draw a diagram of how your group arranges itself during group activities. Include people, furniture, walls, computers, and any other objects your group uses or interacts with in your diagram. Label everything. If your group uses different arrangements, sketch two or three variations.
2. Look at where you are positioned in your diagram. Where are you located relative to other group members, computers, books, furniture, et cetera?
3. How does your group communicate during in-class activities? Consider speech, non-verbal body language/facial expressions, and any digital communication technologies like email, instant messaging, text messaging, social network site posting, et cetera.
4. How does your group circulate texts during in-class activities? Consider both texts you work with as sources (like a YouTube video to analyze or a model paragraph to emulate) and texts your group produces (like answers to questions about a homework reading or a mockup of a visual aid for a group presentation).
5. Think about your experience as a member of this group in light of your responses to Questions 1-4. How easy is it to talk with group members? Do you have any trouble being heard or getting your group mates to listen to you? To what extent have you been able to make suggestions, help plan the group’s activities, participate in discussion, or contribute to
collaboratively-composed texts? What is the relationship between your physical placement during group work and your contributions?

6. Sketch a new diagram of how your group could arrange its members, furniture, texts, and composing devices (computers, books, paper, et cetera) that would encourage you (and other members) to communicate better and work together more easily. Using pictures, arrows, or notes, indicate how you will circulate reading and composing texts in digital or hard copy and indicate any use of digital communication and/or composing technologies.

After completing these individual exercises, have groups assemble together and compare before and after sketches. Ask them to consider the following questions:

7. To what extent do members’ “before” sketches resemble each other?

8. Looking at the before sketches as a group, are there any “dead zones” that isolate group members and prevent them from participating in discussion and composing activities?

9. Compare “after” sketches. What proposals do different group members offer for arranging furniture, people, computers, books, et cetera? Discuss the methods group members suggest for circulating and composing texts.

10. As a group, draw up a short paragraph, bulleted list, or new diagram that explains how your group will work together on future in-class composing tasks. If your group decides to use different approaches for different kinds of activities, make note of/draw out those variations. This will become your group’s informal agreement about how you will conduct in-class group work.

Have groups archive their agreement from Question 10 so they can refer back to it—assign a group member to hold on to it, post to an online locker, hang it up in the classroom, et cetera. Every few weeks while the groups are working together, have them refer back to their agreement to assess 1) whether they are adhering to the “best practices” of group arrangement and communication the members agreed to and 2) if any of the group’s physical arrangements, methods of communication, or means of circulating texts need to be changed. During these check-ins, encourage students to revise
their agreements as necessary to reflect the effectiveness of their methods and/or changes in their composing work.

Encouraging students to think about virtual and physical spaces for group digital composing draws their attention to how their group’s use of space affects their work together. The individual and group metacognitive exercises on space I describe here can complement the reflective exercise I introduced in Chapter 3 that positions group digital composing tasks as learning opportunities. The space activity’s emphasis on visual representation also, I argue, offers group members a different way to discuss group work than the verbally-intensive methods I describe in Chapter 3. Gunter Kress argues that diagrams and other visual aids are an especially effective means for conveying information about placement and location. The semiotic affordances of visual media, which members can expand on verbally during their group discussion, makes these diagrams well-suited to representing the physical proximity/distance, barriers, and patterns of circulation that characterize group work (as suggested by my own use of diagrams in this chapter). This exercise includes considerations of physical space that apply to all kinds of group work and illustrates how adding material digital literacy resources like computers and virtual composing environments can add channels of communication and collaboration, as well as potentially creating new barriers to access.

I argue that student groups’ use of laptops in the laptop section and community literacy course was an important factor in their use of classroom space. The mobility and visibility issues that came up for student groups in the laptop course, in particular, point to a new set of spatial concerns for instructors teaching in laptop-based technology rich environments. The studies of space and infrastructure in technology-rich composing
classrooms presented by DeVoss, Cushman, and Grabill and by Walls, Schopieray, and DeVoss both focus on classroom computer labs, outfitted with university-provided desktop computers and set up specifically (if poorly) as computer labs. Students in the laptop section and community literacy course used laptops in “traditional” classroom spaces that had not been designed to accommodate them. Especially for composition teachers and programs attempting to capitalize on students’ personal technology resources, it will be increasingly important to think about the ways in which using these material digital literacy resources may hamper face-to-face group work, even as they provide access to virtual group composing spaces. Technology-rich classroom environments raise questions about how student composing groups will work together in physical and virtual space. The findings I present here offer practical pedagogical activities for teachers who want to draw on mobile digital technology to create digital composing environments in “traditional” classroom spaces.

**Spatial Implications for Nomadic, Distributed Digital Group Composing Work**

Non-classroom composing spaces, on the other hand, pose thornier problems for composition researchers and teachers. While instructors and students can engage in activities that position classroom space as visible and plastic, distributed physical and virtual spaces for group digital composing are more varied and contested. They also differ for different groups and sometimes even for different members of the same group. Groups’ varied physical and virtual composing environments highlight access

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119 In recognition of the increasing number of students bringing laptops with them to campus (as reflected in the ECAR data in Figure 2), some compositionists (see Miller-Coehran and Gierdowski; Bemer, Moeller, and Ball) and IT professionals (see German, Keyek-Franssen et al) have begun to redesign campus computers labs and technology-rich classrooms to serve as laptop work stations and to study how students use them.
complications overlooked by Ross’s vision of the nomadic office and Harrison’s concept of the distributed workplace. These access complications point to the contested private/privileged/public nature of these distributed workspaces. The ways in which focal groups accessed distributed composing spaces raise questions about the infrastructure that supports academic digital composing work.

Thinking about laptops as mobile, digital composing environments draws attention to the spaces digital composing groups work in outside the classroom. Teachers can create and support classroom digital composing spaces (like Kristy did by buying extra power strips for the laptop section classroom), but when groups work together in other physical and virtual environments, familiar questions concerning access to and parity of literacy resources arise. The variety of physical and virtual spaces in which groups from the community literacy course and SL collection worked demonstrates the variety of environments in which nomadic digital composing groups work. Similar to the ways Melissa, Emily, and Claire foraged for digital literacy resources in Chapter 2, the community literacy course and SL focal groups in this chapter worked in spaces they had access to through family, work, corporate, and public spheres. The patches in which these workspaces were located blur the boundaries of Harrison’s private/privileged/public typology, suggesting its limits as a framework for describing conditions of access to workspaces for digital composing.

The questions I ask—both about the foraging I describe in Chapter 2 and about distributing digital composing tasks across workspaces in this chapter—have to do with adaptability and, more troublingly, fairness. As in Chapter 2, when groups’ access to composing spaces is tactical and ad-hoc, it is tenuous, especially when that access
depends on the cross-sphere connections of a single group member. Chris and Charlie, in particular, provided their groups with access to valuable workspaces on the basis of their employment at the National Defense Center (Chris) and the high school (Charlie). If the groups had lacked access to those spaces, what would have happened? Would other group members have invited the group to work in spaces they could access through their cross-sphere connections? Might the projects have been radically different, especially in light of the links I draw in Chapter 3 between Charlie’s leadership and the extent to which material literacy resources he recommended shaped the composing methods his group used? Pursuing these “what if” questions is impossible, but they highlight important issues about access (especially to expensive/unusual/exclusive physical and virtual composing environments) and the relationship between power, responsibilities, and space in composing groups.

Thinking about space as a material resource for digital group composing reintroduces the problem of access more generally, especially in the case of the SL collection. Limited access to the kind of high-end software Josh and Chris used at their workplaces did (along with other factors) prompt some contributors to withdraw their exhibits from the collection. Describing her reluctance to comply with editorial feedback to recreate her exhibit in Dreamweaver, Susan, a contributor who eventually withdrew from the collection explained that

I didn’t at the time have the Adobe Suite, and I didn’t at the time have the money to purchase it, and I didn’t want to be tied to lab computers. […] I want to be able to work on this [project] when I want to work on it. So if I want to work on it at three o’clock in the morning, I want to be able to work on it. And for me that was really frustrating in the project.
Responses like Susan’s suggest how space functions a material literacy resource consideration. While Chris (and Josh) could use FinalCut Pro in the National Defense Center’s computer lab after hours, Susan’s restricted access to a workspace like the university computer lab became a factor that impeded her digital composing work. What I want to consider here, echoing concerns raised in Chapter 2, is whether variable access to composing spaces means that practitioners and instructors of digital composing should accept the tendency toward distributed work that asks digital composers to provide their own workspaces to meet the demands of a task. Is it fair to rely on the spaces group members can collectively access to support group digital composing work? And if so, it is one thing to ask academics like Josh, Chris, and Susan to seek out, adapt, or create workspaces for scholarly digital composing work. Can the same demands be made of students working on mandatory digital projects? Or should concerns about unequal access to digital literacy resources as basic as appropriate spaces to work in prompt teachers to limit composing tasks to ones that can be completed during class time and using university-provided resources?

120 Restricted access to Dreamweaver production software was part of the larger reason Susan withdrew her exhibit. Several contributors—including Susan and another SL contributor I introduce below, Liz—identified differing expectations for exhibit design and accessibility as a major difficulty associated with the project. For example, the SL call for proposals (see Appendix F: Call for Proposals for the Stories about Literacy Edited Collection) invites proposals for exhibits in several multimodal formats: Prezi, media-embedded .pdf, Sophie Book (an open-source, web-based rich media composing environment), or .html document (website). Some contributors designed their projects as .html documents using what-you-see-is-what-you-get (WYSIWYG) website creation tools like Apple iWeb or Microsoft Frontpage. However, the simplicity of these WYSIWWYG programs limited contributors’ control over their projects’ layout and background code. As a result, they were not able to meet the editors’ expectations for ADA-accessibility (and in some cases, meaningful design). As a result, after designing their exhibits once using a WYSIWWYG application, these contributors were asked to completely recreate their exhibits using Dreamweaver, an unfamiliar, complex program. This was the point at which Susan raised the Dreamweaver-accessibility objection I refer to above.
My research on out-of-class group composing in the community literacy course and distributed composing work among SL coauthors suggests that accepting the distributed, nomadic knowledge work models Ross and Harrison describe is currently the norm for academic digital composing projects. As some SL contributors noted, this places a considerable burden on composers to seek out the kinds of digital literacy resources I describe here and in Chapter 2, which DeVoss, Cushman, and Grabill argue constitute the infrastructure necessary for twenty-first century writing programs. Some SL contributors, who were surprised by the amount of infrastructure they needed to build for their exhibit-composing task, suggested that the press or the editors (the task-assigners) should have provided more support for the digital composing task they set for contributors. Liz, a member of an SL composing group that hired an outside designer to produce their exhibit, suggested that “It’s the publisher’s responsibility and not mine to do that, right? […] you provide the resources.” This is a complex issue, since digital (or any) publication is a voluntary activity and the SL editors and press have no budget for supporting digital composers outside their personal generosity. But comments like Liz’s draw attention to the resource gaps that emerge in distributed digital composing work, underscoring the question of who will provide material resources to support the kind of digital scholarship found in the SL collection.

This chapter has considered some of the ways space and group composing tasks mutually affect each other. It has also raised questions about the function and adequacy

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121 Although it is rare for editors or publishers to provide resources for would-be digital composers, Kairos’s Tier Three review process (a variation on “revise and resubmit”) suggests how the kind of editorial support Liz calls for could be offered: “The editors assign a staff member to work with authors, as needed, to guide/facilitate revisions based on the editorial board’s comments and evaluation. This mentoring can last up to three months. Once Tier Three revisions are complete, the author resubmits the text for a Tier One review [consideration for publication] and the process starts again” (“Kairos”).

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of distributed and nomadic approaches to digital composing work. The design of classroom (and other) spaces suggests certain patterns of use, which students, teachers, and other users meet with their own expectations for how group digital composing should operate. I argue that arranging bodies, furniture, and composing tools in the classroom will become increasingly important as instructors draw on the mobile technologies students bring with them to the university campus. When digital composing tasks move outside the classroom and into other physical and virtual environments located in the university, private homes, businesses, and public spaces, questions about access pile on top of the identities and expectations with which groups approach and respond to their composing environments. This chapter has examined some of the ways student and faculty digital composing groups select the composing environments in which they work. I have also traced how distributed and classroom-based composing groups both take advantage of the affordances and work within the constraints of the physical and virtual spaces for digital composing found in their literacy ecologies.
Chapter 5: Conclusion

Opening Anecdote

While working on this project, I have again been teaching the business writing class that prompted my initial thinking about these issues. Reflecting both this study's interest in group composing work and the frequent use of writing teams in the workplace, students in my current business writing class spent the second half of the term working in groups on an extended research project in which they:

- identified a problem and proposed an original empirical research project to address it;
- wrote a formal report documenting their findings and making recommendations; and
- presented their findings to their classmates, who posed as the report's target audience.

Using the pedagogical approaches I develop in this study, my presentation of this group project focused on accessing resources; identifying individual learning goals; organizing the project and distributing responsibilities; choosing times, places, and methods for communicating and meeting; selecting print and virtual environments for collecting data, storing information, and circulating texts; and agreeing on evaluation criteria for members' individual contributions.

What stood out to me in students' end-of-term reflections on what they learned in the class was how frequently they cited learning to plan, work, and communicate with group members as an experience they expected to call on in the future. Students also commented on how much they learned, not just about their chosen topics, but about designing and implementing a large-scale research project and reporting on it in different modes. The prevalence of these comments wasn't particularly surprising in light of how much emphasis the course put on developing processes for group composing work. But the extended research assignment helped me reflect on and informally test out the approaches to literacy resource access, interaction, and application I describe in this study in a course that (like the laptop section) asked students to write extensively in digital environments without being formally designated as a technology-intensive course.

In the class I just finished teaching and in the student and faculty research sites on which this study focuses, groups' digital composing processes point back to the research questions I use to frame this study. These questions concern how group members gather
literacy resources to support digital composing tasks, the opportunities group digital composing tasks offer digital literacy development, and the extent to which groups change or adapt the resources they use through the process of working on their tasks:

- **Gathering:** Where do the resources that support group digital composing come from? How do group members access and apply them to a digital composing task?
- **Learning:** How do these literacy resources circulate among group members while they work on the composing task? To what extent can individual members accumulate new digital literacy resources by participating in group digital composing tasks?
- **Shaping:** How do a group’s production of (work)space as a material resource and its approach to the group composing task mutually shape each other? How might the group’s production of (work)space affect the way others perceive and use that space?

I use these three clusters of questions to pull together my findings about the relationships between groups’ digital composing work and their past, present, and future literacy experiences across the family, peer, school, professional, public, and corporate spheres that make up their literacy ecologies. The synthesizing discussion I offer here returns to the concepts of access and transfer with which I opened this study. It also suggests directions for future research to test and extend the arguments I make in Chapters 2, 3, and 4 about literacy resource foraging, cooperative/collaborative group composing methods, and groups’ adaptive/adapting use of workspaces as material literacy resources. In light of the pedagogical recommendations I make in those chapters, I am speaking here especially to teachers of composition, but also to researchers studying digital literacy development from an ecological perspective.
GATHERING: Where do the resources that support group digital composing come from? How do group members access and apply them to a digital composing task?

Literacy resources from multiple spheres supported the student and faculty digital composing tasks found in my three research sites. These resources came from the family, peer, school, professional, public, and corporate spheres that made up group members’ wider literacy ecologies. Chapter 2 focuses on individual group members’ methods of foraging for literacy resources to access new intellectual and material resources. Melissa, as her group’s technology expert, was responsible for creating the slide template for their community literacy course final project and embedding media in it. In order to participate in the laptop section course, Emily needed to provide her own computer for use in the class. As the exhibit designer of her group’s SL exhibit, Claire was responsible for building their multimodal web text and submitting it to the collection editors. To access digital literacy resources for their group composing tasks, participants identified needs and accessible patches within their spheres where they could forage for material and intellectual resources. Patch knowledge, social ties, and medium of access were important factors that guided participants’ methods of foraging and affected their foraging outcomes.

Many of the material and intellectual digital literacy resources group members applied to their composing tasks, however, were resources individual members of the group had already accumulated. By “accumulated,” I mean that these resources were already familiar to group members because they had used them previously to work on other tasks located in other spheres. Jim and Andy were already familiar with Prezi from their previous research and teaching work, so they selected it as the composing
environment for their group’s SL exhibit in order to devote their time to content creation and curation, rather than software development. Based on Charlie’s experience collaborating with colleagues at the high school where he taught, he suggested that his community literacy group use Google Docs to cooperatively draft the text for their final project, and he invited his group members to work in his classroom after hours. Chris arranged to work with Josh in the computer lab at the National Defense Research Center, where they had access to high-performing computers and video editing software. Josh brought to their SL exhibit his experience with Photoshop and his fondness for tinkering with finicky new technologies. Scott entered the laptop section with a similar background in software and hardware tinkering, which significantly influenced how his group approached in-class digital composing activities.

I draw direct connections here between the demands of groups’ composing tasks and the resources participants accessed from other spheres through foraging and accumulation. Looking at groups’ work on their digital composing tasks in terms of material and intellectual literacy resources breaks down their task into its component parts and allows me to highlight the origin of these parts. To offset the autonomous connotations of this modular approach to literacy, I emphasize the cultural, economic, professional, academic, and generational character of the patches through which participants accessed foraged and accumulated resources. Attending to both the material resources and intellectual resources also emphasizes the extent to which digital composing depends on both of these components. It demonstrates that digital literacy resources are not equally accessible in the spheres that make up different people’s literacy ecologies.
As I argue in the preceding chapters, accessing literacy resources through foraging and accumulation depends on connections to institutions like schools and offices/professions, as well as informal and private connections like family and peer social ties. These connections are influenced by individuals’ class, culture, age, gender, race, and educational background. Even resources accessed through public and corporate spheres depend on individuals knowing how and where to seek them out. And with so many intellectual resources (and even virtual material resources like software and cloud-based composing environments) being provided online, the medium of access is a significant consideration that can render an available resource inaccessible. Access to both material and intellectual digital literacy resources is complicated by material, cultural, and media affordances and constraints. As a result, digital composing pedagogies should focus on the process of accessing and using these resources, especially for group tasks where distributing responsibilities and sharing resources offers both extra work and added benefits.

Viewing digital literacy performance as a product of resources is valuable because it helps teachers and practitioners think about how to approach a digital composing task procedurally. What does this task require? What material and intellectual resources do I already have at my disposal? What resources do I need? Where/how can I access them? Viewing a digital composing project as supported by a collection of resources drawn from current and previous connections to multiple spheres provides a way for individuals from diverse backgrounds and with varying degrees of experience to approach these tasks. The examples and models this study offers can provide a starting place for beginning digital composers, directing them toward places to look for resources and
criteria to guide their foraging choices. The value of foraging is that it takes an individual’s ecological location as a starting point and encourages them to look carefully at the resources available to them. Digital literacy resources are present in individuals’ literacy ecologies, although their proximity and conditions of access vary considerably. Although foraging’s procedural approach is realist (rather than idealistic) and relatively conservative (rather than radical), it has the potential to raise awareness about unequal access to digital literacy resources. Attending to resource availability will highlight access barriers that make digital composing work difficult or impossible, as Karen’s and Liz’s questions about who is responsible for supporting faculty digital composing work begin to suggest.\footnote{Support for digital scholarship in English studies is an issue composition scholars who produce and publish digital scholarship are concerned with as a professional issue (see Erickson and Blair; Blair and Monske; Blair’s contribution to Walker et al’s “Composition 20/20” piece; and Moeller, Cargile, and Ball). Their elaborations on the infrastructure that supports digital scholarship illustrates how the difficulties Karen and Liz note can expand from personal accounts of barriers to resource access to institutional and professional critiques that call for changes in how digital composing tasks in the academy are supported and evaluated.}

One way to sharpen the critical edge of my resource-based approach to digital composing would be for future study to shift outside the research-oriented universities from which my undergraduate, graduate, and faculty participants were drawn. Studies located at other higher education institutions (for example, open admissions universities or community colleges) or with community-based groups not defined by their connection to higher education would include individuals located in different patches, with different accumulated literacy resources and digital literacy learning goals. The students in my study owned their own laptops, borrowed audio-visual from the university, and had
access to several on-campus IT helpdesk and technology assistance offices. While the institutions where some SL contributors worked offered few resources, faculty participants also had access to professional contacts (as Claire’s experience demonstrates) who helped fill in resources participants’ own academic workplaces did not provide. The work of Monroe, Nakamura, and Ito et al demonstrates the extent to which researching digital literacy outside of research-intensive universities highlights different access conditions. Extending my research by expanding and diversifying the participant population would test and (potentially) extend and nuance the argument this study makes for supporting digital composing tasks through foraging and accumulation.

Finally, readers will notice troubling gender patterns in my synthesizing claims in this section about literacy resource access: the foragers (those who need to seek out additional resources) who I focus on in Chapter 2 are all women. The participants who draw on accumulated digital literacy resources in Chapters 3 and 4 are men. As I argue when discussing the homosocial relationships that underpinned Scott’s longstanding interest in computers, these gender patterns are not incidental. The number of participants in this study is too small to make any sweeping claims about the relationship between gender and the need to forage for resources versus tap into accumulated ones. However, the apparent correlations in my small data set between gender and foraging/accumulation raise questions about what it means for different people to “access” digital literacy resources, calling for further study.
LEARNING: How do literacy resources circulate among members while they work on the digital composing task? To what extent can individual group members access new digital literacy resources by participating in the task?

The pedagogical recommendations I make in the conclusions of Chapters 3 and 4 are designed to support learning through group digital composing projects, taking both the project’s overall organization and group members’ day-to-day work on it as opportunities for supporting digital literacy learning through resource access.

Cooperatively-structured projects run the risk of hyper-efficiency, in which members take on responsibilities according to their pre-existing literacy experience and everyone leaves the project with the same resources with which they entered it. However, balancing this kind of efficiency with individual learning goals encourages members to take on responsibilities that will require them to access new digital literacy resources, as happened for Melissa, Jacob, and Carolyn.

 Neither Melissa nor Jacob identified as a technology expert outside the community literacy course, but they agreed to serve as their groups’ technology experts because other members did not want the role. As a result, both students learned a considerable amount about video editing and composing multimodal presentations. By helping evaluate their groups’ SL exhibits, Carolyn and Karen learned more about the process of producing digital scholarship and gained an appreciation for its communicative affordances, encouraging them to consider participating in similar projects in the future. The learning opportunities that cooperative task management facilitates are designed to encourage group members to forage for new digital literacy resources. This kind of foraging can take place in other patches like Melissa’s, Emily’s, and Claire’s did. But it can also take place within the group, as happened in Jacob’s
group when other group members asked him to show them how to edit video, or as happened when Karen worked alongside Britta and got a feel for web design.

Chapter 3 discusses pairing group members on the basis of their accumulated resources and learning goals to encourage the sharing of digital literacy resources during collaborative task phases. The individual and group diagramming activities I describe in Chapter 4 are designed to help group members arrange group workspaces to facilitate this kind of resource-sharing during meetings and work sessions. While the learning-oriented division of responsibilities described in Chapter 3 operates at the level of the whole project, the analysis of specific group work practices featured in Chapter 4 provides instruments groups can use to facilitate digital literacy resource transfer among group members. Ensuring that all group members 1) think carefully about how the group actually works together and 2) help shape the group’s actual working procedures can address some of the concerns about the dominance of individual group members raised in Chapter 3. Being consciously aware of physical and virtual workspace for group composing can help make explicit the kinds of power dynamics that I suggest were tacitly present in Jacob and Charlie’s group, which offers a first step toward working to offset them.

The digital composing experience group members like Charlie and Jim bring to their groups offer valuable resources to the group, even as they connect individual members to the composing task in different ways. Part of approaching literacy ecologically means recognizing the connections between the different literacy experiences group members accumulate across time and spheres and seeing those experiences as providing material and intellectual resources relevant to the composing
task. This is the mindset Jacob’s “Everybody had different parts that they brought to make the whole” comment reflects. Given the emphasis this study places on resource transfer, I am not suggesting that group members who have accumulated relevant digital literacy resources withhold them in order to force/allow other group members to learn blindly on their own. This would eliminate the possibility of learning from other group member while working on the project. Attending to the logistics of group work, however, focuses attention on who does what, where, when. Making this information explicit facilitates sharing gathered resources between members, telling individual members who they can turn to or work with to access literacy resources that match the learning goals they identified during the original project-planning stage. Encouraging these kinds of learning opportunities through reflective check-ins on groups’ working procedures formally provides access to the kinds of literacy resources Karen, Carolyn, and Laura accumulated during collaborative phases of group work.

Scrutinizing groups’ routine work habits makes digital composers aware of how their habitual patterns of interaction shape the overall structure of the project and the text the group produces. Becoming aware of these access concerns is an important first step to addressing them. For example, highlighting the physical and sensory barriers to communication in the laptop section suggests practical reasons why some group members were excluded from in-class composing activities. Attending to the technical barriers to real-time collaboration in Google Docs and Prezi that hampered Josh and Chris’s communication and restricted their ability to share material and intellectual digital literacy resources points to ways in which the access conditions of these virtual composing environments structured their composing work. As I argue above, focusing on
how groups produce work space also draws attention to the positions different group members occupy relative to the project. Being physically distant or virtually disconnected from the project text can indicate exclusion from the task and serve as a wakeup call for peripheral and central group members, alerting everyone to the unequal physical and symbolic positions different group members occupy.

*Studying Digital Literacy Learning Across Successive Composing Tasks*

An important extension of this study would follow participants through a series of digital composing tasks to examine the extent to which the hints of transfer I identify in this study are realized. I argue in Chapter 3 that Laura began to transfer resources between sequential projects when she tried to interest her friend in using Join.me to study biology. But my focus on the tasks that define my three case study sites prevents me from looking more deeply at the potential for digital literacy development over time through access to resources gathered around a series of composing tasks. In addition to Laura’s case, two adult Black female participants from the community literacy course discussed how they planned to apply the material and intellectual digital literacy resources they accumulated during the course task to future digital composing projects. Their cases, which I discuss briefly below, suggest how further research could study digital literacy development through resource transfer between projects and identify motivation as a complex phenomenon which is central to this kind of transfer.

Denise, a middle-aged Black community member and the mother of two adult daughters, joined the community literacy course after hearing from an acquaintance that this was a class where community members could come in and learn the technology and then work on their own projects that they may have. I had my own historical project, in that I’m really the historian for my family
now that my mom’s passed on. And I just decided that one of the ways I wanted to honor her was to gather the letters that I had saved from her writing to me [from] when I first went off to college through about 2007.

When she discovered that the course would focus around the Black church literacy narrative collection project, Denise decided to stay in the class, thinking that she might accumulate digital literacy resources to “speed up” the process of archiving her mother’s letters. While working on her group’s literacy narrative project, Denise did get several new ideas about how to use digital media in her family history project:

- A representative from the local historical society suggested that Denise audio-record herself reading the letters to recreate the sound of her mother’s voice speaking through the letters.
- Lisa, the lead instructor, suggested that Denise digitize the letters to preserve their content and form, and offered to show Denise how to use the scanner in her university department to do so.\(^\text{123}\)
- Based on her experience filming literacy narrative interviews for her group’s project, Denise was considering buying a small video camera like the one she used during the class to record herself reading the letters as a video tribute to her mother.

I interviewed Denise immediately after the community literacy course ended, so her plans for using the digital literacy resources she encountered through the class were still speculative. When I interviewed Nia midway through the following term, however, she was enrolled in Lisa’s advanced digital media class on the main university campus, in which students were invited to pursue their own projects using the course assignments (like Denise had planned to do in the community literacy course). Nia described drawing on and extending the video production skills she learned in the community literacy course to create a short video for Lisa’s class which featured her daughters. She had shared the video with her mother, who was impressed with Nia’s work and excited to see her

\(^{123}\) As a gesture of reciprocity, I showed Denise how to create full-color, high-resolution scans of the letters after we discussed the project during her interview, and offered to meet her on campus to do the scanning.
granddaughters on film. Nia, the team leader from Chapter 3 who was concerned about creating a tribute worthy of her group’s interviewees, explained that she was very proud of the video projects she created throughout the two courses and planned to extend them with a family project:

I enjoyed the video editing portion…Trying to figure out where to put the content. All of that, creating a story. […] So this class¹²⁴ has really taught me a lot. Digital media has developed creativity in me that I didn’t know I had. […] my sister and I have been thinking of doing some sort of video for my mother’s seventy-fifth birthday next year. So I think it would help; I know it will help. We’re going to interview our aunts who are all in their late seventies, early eighties, to really work something that’s really nice for our mom. And I know that I want to incorporate pictures of her as a child and interviews with her grandchildren, her siblings, other family members.

The projects that motivated Denise and Nia to acquire digital literacy resources during these courses are both family-related, pointing to the cross-sphere nature of the projects and literacy resources that supported their digital literacy development over a series of composing tasks. Nia’s situation differed from Denise’s in several ways: Nia was in her mid-thirties and a State University undergraduate who enrolled in the community literacy course because it fulfilled a general education requirement and met once a week near her home. However, like Denise, she was also a Black woman, the mother of two daughters, and a member of a close-knit immediate and extended family. Similar to the suggestive correlations between gender and digital literacy resource access through foraging versus drawing on accumulated resources that I mention above, the parallels between Denise’s and Nia’s plans for digital, multimodal family history projects suggest a way to extend the resource-based, cross-sphere approach I adopt here to

¹²⁴ It’s not clear whether the class Nia refers to here is the community literacy course from the previous term, the advanced digital production course she’s currently taking, or both. Regardless, Nia’s statement indicates the connections she drew between her digital literacy learning across multiple projects.
investigate digital literacy development across a several composing tasks. The race, gender, and family characteristics parallels between them also suggest ways in which expanding this study to include non-academic sites can test, extend, and/or refine the arguments I make here about how literacy resource transfer can facilitate digital literacy development.

SHAPING: How do a group’s production of (work)space as a material resource and its approach to the group composing task mutually shape each other? How might the group’s production of (work)space affect the way others perceive and use that space?

Building on the work Reynolds and Boys have done on the production of space in learning and teaching contexts, I argue for space as a significant resource groups bring to bear on their digital composing work. Student composing groups in the laptop section and community literacy course adapted and adapted to classroom space as a working environment. In the laptop section, the cramped and noisy classroom discouraged the groups of four from working together until they rearranged the furniture during their final peer review workshop. In the community literacy course, groups’ production of classroom workspace was shaped by the greater control student groups were encouraged to take over their composing task, the course’s “community” location, the instructors’ use of different classroom layouts for different types of class activities, and the classroom’s relative emptiness. These factors marked the Center’s multipurpose room as an atypical classroom space and discouraged the kind of classroom inertia that characterized the laptop section throughout most of the term. Instead, community literacy course participants saw the classroom as a flexible learning space in which they could alternately
work alone and together to respond to the cooperative and collaborative phases of their group composing task.

*SL* and community literacy course groups also distributed their digital composing work across physical and virtual workspaces drawn from members’ school, professional, public, and corporate spheres. Jacob and Charlie’s community literacy group and Josh and Chris from the *SL* collection worked together face-to-face in physical workspaces located in school, professional, and corporate spheres. Both groups also composed together virtually in cloud-based environments like Google Docs and Prezi. They sought out physical and virtual workspaces based on the material digital literacy resources they provided and on how easily group members could communicate in them. Their workspace selection criteria mirrors foraging considerations I propose in Chapter 2, reflecting how workspace functions as a material resource for digital composing tasks.

My use of Prior and Shipka’s “environment selecting and structuring practices” concept in Chapter 4 to examine how groups chose workspaces takes the built and social character of space as a given. As a result, I did not consider how groups’ inhabitation of these spaces as work environments might have altered the spaces as material resources. Taking another perspective on how Jacob and Charlie’s group, for example, produced physical workspaces outside the classroom (the conflict between their group and other library users, their use of Charlie’s classroom and the sports bar as meeting places) suggests ways in which their uses of these spaces conflict with the typical or expected uses of these spaces.

While it would be normal for Charlie to work with teacher-colleagues in his classroom after hours, inviting his group mates to meet there disrupts some of the
expectations for who will occupy the space of a public high school. This is especially true in light of how tightly secondary schools control access to their physical premises. In Chapter 4 I discussed Charlie’s classroom in terms of other group members’ restricted access to it, but here I want to consider the ways in which the groups’ use of it as a meeting space may have affected the character of the space, if only temporarily. Might Charlie’s use of his classroom as a space to work with non-school outsiders have encouraged his colleagues to use their classrooms in similar ways? Might it (especially combined with their flexible use of space in the multipurpose room where the community literacy course met) have changed the expectations Charlie and his group members had for the kinds of work that can go on in classrooms and who can be involved in it?

Their group’s use of the campus area sports bar for their final meeting place reflects a similar kind of creative reappropriation of space, in this case, the corporate space of a business. The sports bar (shown in Figure 23 below) describes itself as “the ultimate place to get together with you [sic] friends, watch sports, drink beer and eat wings,” which mirrors Jacob’s and Charlie’s explanation for why the group chose to meet in the bar to exchange files and burn DVDs. While relaxing with friends/classmates and having a beer is a typical activity for this bar, working on a computer is not. The combination of work and socializing the community literacy group engaged in here is more reflective of the kind of “third space” work/social environment that characterizes coffee shops (see “Our,” “Coffee,” Waxman, and Goldstuck, and Figure 24 below, which shows students working alone and in groups in a campus area coffee shop), rather than the Cheers-esque atmosphere the sports bar cultivates. So the group’s choice to meet
there to exchange files and burn their DVDs produced a different kind of (work)space than the bar encourages and with which most other patrons comply.

Figure 23: Students Socializing at Campus Area Sports Bar
My discussion of the counter-(work)spaces Jacob and Charlie’s group produced in Charlie’s classroom and at the sports bar through their distributed composing work suggests another direction for further study. The questions I raise here about the (work)spaces distributed digital composing groups produce parallel research on boundary objects, an activity theory concept I mentioned briefly in Chapter 1. Susan Leigh Star and James R. Griesemer define boundary objects as abstract or concrete objects that are both adaptable to different viewpoints and robust enough to maintain identity across them. [...] They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. (393)
Considering spaces for distributed digital composing as boundary objects offers a promising direction for extending the analysis I begin here about how inhabiting a work(space) may affect that space. Other scholars who work on boundary objects study how the use of boundary objects by different groups can change their meaning both locally and across different contexts for use (see Bowker and Star, Wenger, Star), providing models for how future work on these distributed (work)spaces might proceed. And although Star and Griesemer’s original examples of boundary objects include the University of California-Berkeley’s Museum of Vertebrate Zoology, they analyze it primarily as a cultural and scientific institution shaped by multiple constituencies rather than as a physical building. Future work on the production of distributed (work)spaces for digital composing can look at the relationship between physical design and different occupants’ expectations for how the space should be used, extending the concept of the boundary object.

As I argue in the introduction and throughout this study, the increasingly central role writing in digital environments and multimodal compositing play in twenty-first century literacy and literacy instruction makes digital literacy a fundamental, mainstream concern for teachers and researchers. Digital composing draws on many of the processes that apply to print composing (planning, drafting, revising, et cetera), but its technological demands require additional material and intellectual resources. This study has proposed a resource-based process for group digital composing tasks that considers access to digital literacy resources, methods for distributing and sharing task responsibilities, and spaces for group composing work. Digital composing’s reliance on both material resources (including hardware, software, and physical/virtual workspaces)
and intellectual resources (the functional literacy skills to operate these material resources and the rhetorical sensibilities concerning design, mode, and audience according to which composers create digital texts) recommends the component-based approach to digital composing and digital literacy development I argue for here. As I show in the previous chapters, the material and intellectual resources digital composing groups use to create alphabetic and multimodal digital texts come from across members’ literacy ecologies. Once gathered around the group’s task, these resources help inform how the group structures its task and create the potential for members to accumulate new digital literacy resources, which they can potentially transfer to future digital composing tasks. The cooperative and collaborative methods groups use to structure their tasks and the physical and virtual spaces in which they compose create opportunities for this kind of resource transfer, as well as posing challenges to it.
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Appendix A: Complexity Theory-Based Approaches to Writing Ecologies

Although the current trend in composition studies toward versions of ecology that are influenced by complexity theory is not especially relevant to this study, I include this discussion of complexity theory-based work on ecology and explain how I position my research relative to it.

First, as a complexity theory, the network-based ecological approach focuses on change and emergence, dismissing pre-existing ideological, identity-based, cultural, and linguistic structures as outmoded constructs predicated on social stability that complexity theory rejects as one of its basic principles. This is the distinction Bruno Latour draws between Social and social, where Social refers to a doxa of presumed-to-exist identities, structures, classes, et cetera, while social describes the way society is created from moment to moment through the interaction of people and objects. Ecology theories that stress complexity see such structures like identity, culture, and language as too contingent and transitory to incorporate into any theories intended to describe the ecology as a whole. Second, strong versions of the posthumanist aspects of ecology theory challenge the possibility of deliberate action, which seriously threatens the possibility of learning and teaching in an ecological context. These positions are exemplified in Dobrin’s Postcomposition, which aims to study writing as “an attempt to occupy space, to name..."
and to make areas of space into places,” by which he means how the act of writing creates meaning in network culture by turning the undefined space around the network into “places,” by adding new meaning-imbued nodes to the existing network (*Postcomposition* 40, 55, 180-184). Dobrin’s emphasis on emergent-over-existent ecological conditions and his argument for posthumanism over subjectivity reflect his stated desire to create a high theory of ecology for composition that does not move toward application to empirical data (190). Because my study does this kind of application work, I bring Dobrin’s strong ecology position into conversation with other scholarship that examines lived literate experience in network culture to refine the ecological framework for my study.

Taking his lead from complexity theory, Dobrin focuses on creating new network nodes through writing, not on exploring existing phenomena. Furthermore, he sees composition’s historical focus on social-epistemic structures as they exist in lived experience as a dangerous distraction:

> Writing theory is not—should not be—theory made to describe/explain things like ideologies, politics, subjectivities, agencies, identities, discourses, rhetorics, or grammars, nor are writing theories descriptions/explanations of the relationships between writing and other phenomena like ideologies, politics, subjectivities, agencies, identities, rhetorics, discourses, or grammars [...] (Dobrin *Postcomposition* 24)

However—as Dobrin notes, new systems within the ecology (or new nodes within the network, to use his terminology) are created in connection with existing structures. This means that the existing ideological, political, subjective, agentive, identity-based, discursive, rhetorical, and grammatical conditions Dobrin wants to bracket off—although they shift as change and emergence create ripples in the ecology—do affect the emergent new parts of the system that emerge around a composing task. Hawk, on the other hand, acknowledges that these social-epistemic structures will persist in a literacy ecology. He suggests (like Dobrin) that composition researchers and teachers resist taking such structures as foregone conclusions, but instead urges the field to look at particular instantiations of them to see how they are created at the material and discursive intersections of particular ecological conditions (*Counter-History* 257).127 Along with Hawk, I assert that these structures do not have to exist in a dynamic literacy ecology and that they may change considerably over time, but, as described below, where they do appear in the ecology, they affect access to resources in the small, local systems through which individuals experience their literacy ecologies.

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127 For examples of the approach Hawk advocates, see Jenny Rice’s analysis of debates about urban and suburban development in Austin, Texas and Nathaniel A. Rivers and Ryan P. Weber’s analysis of the origins and methods used in the Montgomery bus boycotts.
Appendix B: Laptop Section Syllabus

First-Year English Composition
Laptop Required Section, Winter 2012
Course Theme: Rhetoric in the Social Media Era

Online Course Locations: University content site and course blog

This syllabus is subject to change as the quarter progresses. If changes are made, you will be provided with oral and written notice of those changes in class or via email. If in doubt, check our Carmen course site for the latest and greatest.

Course Description and Objectives

GOALS AND OBJECTIVES FOR THE GENERAL EDUCATION CURRICULUM: Writing and Related Skills
Writing and Related Skills coursework develops students’ skills in written communication and expression, reading, critical thinking, and oral expression.
1. Students apply basic skills in expository writing.
2. Students demonstrate critical thinking through written and oral expression.
3. Students retrieve and use written information analytically and effectively.

Welcome to First Year Writing! Our course theme for this section is Rhetoric in the Social Media Era, which means we will be systematically exploring the way that ideas and claims circulate in an American culture saturated with social media. We will focus particularly on digital social media. What’s social media, you ask? Great question—it will be one of our first agenda items to discuss this term together and arrive at a group definition. Among other things, we will look up the term social media in Wikipedia and use major search engines to search the term online. Yes, your English teacher is going to ask you to look up a word in Wikipedia and Google it too!

Perhaps you are sensing that in some ways, this is a very different sort of English course than you may have taken in the past. It might be—for example, we will use digital tools that are not commonly used by the general public, but we’ll use them to forward our very academic and analytical research goals. In other ways, however, this course is an ordinary section of First Year Writing. Our goal is to improve your writing in many genres (including the traditional paper-based academic research paper), enrich your learning, open your eyes to new possibilities for research, and help you make connections between your this course experience and your “real life.” At the end of the day, this is a writing class and you’ll do a great deal of writing. However, I also hope you will walk away from
the course with a more nuanced and complex understanding of how digital technologies and social media play a role in the way information circulates in American culture.

Although much of our course reading will concern the rhetoric of social media, you will be invited to research and write about a topic of personal interest to you. I firmly believe that students learn better and write better when they research topics that matter to them. Your classmates and I will help you find ways to make connections between the rhetoric of social media and your topic of interest. This is one of many reasons that you’ll have two one-on-one conferences with Kristy this quarter. It is also one of many reasons why we’ll have several student workshops to assist you with revising your work.

You may have noticed the "L" in our Section number, which makes us one of State University’s "laptop required" course sections. If you are enrolled in this section of First Year Writing, you are expected to have access to your own laptop computer and to bring that laptop to every class meeting. We welcome all varieties of laptop including Windows, Mac, and Linux, but your system should have wireless Internet capability; word processing software; and permission to change computer settings. I also welcome students with iPads or other tablet computers that have wireless access and access to word processing software.

This course assumes no technical expertise of any kind and I have purposely selected digital tools that are welcoming for newcomers. If you bring your enthusiasm, patience, and personal laptop to class each day, your classmates and I will help you with the technical stuff. We welcome any and all tech questions during class!

Required Materials

- A personal laptop with power cord, wireless Internet capability, and word processing software. Bring this to every class session!
- Pen and notebook paper. This is no less important than your laptop!
- This course may require you to install software on your machine and create new user accounts on web sites, but that software will always be free and available online. You’re welcome.
- Readings and other materials posted to our course management site
- You will need access to all readings during each class meeting. You may access these digitally using your laptop or tablet computer, or you can print the readings and bring them to class.

Course Requirements and Grades

During the quarter, you will complete a sequence of assignments (Phase 1, Phase 2, Phase 3) culminating in a research paper. These papers build on each other and you may reuse any and all content from earlier phases for later phases.

Research Paper Phase 1: Primary Source Analysis 10%
2 to 3 pages in length
Research Paper Phase 2: Secondary Source Integration 10%
4 to 5 pages in length, which includes any and all revised content from your Phase 1 paper above

Research Paper Phase 3: Analytical Research Paper 30%
7 to 8 pages in length, which includes any and all revised content from Phases 1 and 2.
Skills: Identification of appropriate primary sources for analysis, accessing university library databases, application of analytical frameworks and rhetorical methods, analysis of primary and secondary sources, synthesis of multiple critical viewpoints into new interpretations, thesis development, composing process, style and grammar

Social Media as Public Academic Discourse 40%
If we’re studying social media and the way it causes information to circulate in academic and non-academic circles, it’s only logical that we use social media to both enrich our academic work and spread our research to other interested folks. Our goals here are threefold:
1. to show a real audience what you’ve discovered and how your work is proceeding,
2. to enrich your Analytical Research Paper by giving you opportunities to reflect on your research topic and how it’s circulating in public discourse, and
3. to think about effective strategies for presenting academic research to the general public online.

As you are not only learners but also researchers who are doing cutting-edge work with social media, it’s only logical that you have a say in how this 40% portion of your grade is divided up. You will play a very active role in deciding how this 40% portion will be graded. We will strive to make the grading fair, meaning it honors the hard work you’ve put into the assignment and validates the learning and growth that took place during the assignment. We will also discuss possibilities for collaboration on portions of this assignment to lighten your overall work load.

• Blogging at our course blog (tentatively 20% of your grade)
• A Storify.com curatorial assignment in which you assemble resources relevant to your research paper topic and prepare a special blog post about your Storify assemblage (tentatively 7.5% of your grade)
• Contribution to a class resource site—possibly a Wiki, possibly a Diigo bookmark collection, etc.—regarding resources that were useful to you during English 110 (tentatively 7.5% of your grade)
• Active promotional efforts to bring in outside-of-class readers for your blog posts, curatorial assignment, and class resource site through Twitter, Facebook, social media sharing sites, and other channels (tentatively 5% of your grade)
Two Mandatory Conferences 5% (2.5% x 2 conferences)

Twice this quarter, Kristy and you will sit down one-on-one to discuss your research and progress in the course. These are pass-fail conferences: if you show up and we complete our conference tasks, you get an “A” on 2.5% of your grade!

Participation 5%
See the syllabus section “How to Succeed in this Class” for more about course participation.

There may be course opportunities for extra credit. Stay tuned.

How to Succeed in this Class
In this class, your classmates are your greatest allies. I do not compare your classmates’ essays to yours, nor do I grade on a curve. I grade the essays that you submit based on how well your writing meets the assignment’s stated objectives and tasks, which are criteria that will be made available to you as you work on the assignment. In some cases, you will even be asked to contribute to the development of the grading criteria. This means that you have nothing to lose and everything to gain by working with your peers because they are not your competition, but rather part of your research and learning team. If you are open-minded to broad-scale revisions and changes in your writing, to trying new ways of analyzing material and developing ideas, and paying careful attention to the course requirements, it will show in your final grade.

This is a writing class and much of your grade will revolve around writing, but you will also receive credit for being a responsible student. I assign a weekly participation score to every student on a scale of 0 to 5, and I average this score at the end of the quarter to produce your participation grade. This can be a crucial percentage in “tipping you” toward a higher final letter grade. Historically, students with strong participation grades achieve good final grades. If you participate fully, you will learn more and do better in the course overall.

To receive a 5 in participation, I suggest all the following behaviors:

- focus and engagement during in-class activities
- offering thoughtful and brave questions and comments
- connecting the course material to your own writing and thinking
- respectfully listening to and considering the opinions and ideas of others
- coming to class prepared and with the correct materials
- turning in work on time and to the specifications given for each assignment
- using eye contact and body language to show your engagement with the class
- enriching the class by meaningfully connecting your personal interests and expertise to the course material
- working actively and cooperatively with others during class activities
• carrying these same behaviors into our course’s online spaces, especially our class blog.

I will hold you to high standards, but in return I will offer you as much assistance as my schedule will allow—a generous amount. I see this class as a collaboration: if we both do our jobs, you will produce your best possible work and take away valuable skills that will impact the rest of your life.

Many of the course policies below are designed to maintain this positive learning environment for all students. Please abide by these policies out of respect for your fellow students.

Course Policies
In general, college students are wonderful adults who are excited to be here and very responsible. However, sometimes things go wrong—you oversleep, someone gets sick or dies, you have to turn in something late—and this Course Policies section will help you make course-related decisions in those situations. Please plan to abide by these policies.

Attendance
You will learn a great deal from your classmates and they’ll learn a great deal from you; thus, your attendance in class is very important. Therefore, you may take two unexcused absences from this class without any penalties. However, your third and fourth unexcused absences will each result in the lowering of your final grade by a one-third of a grade (example: B+ to B, then B to B-). It is program policy that five unexcused absences will automatically result in failure for the course.

Excused absences, such as those for documented serious illness, family tragedy, religious observance, or travel for inter-collegiate athletics, will not affect your grade. Please contact me as soon as possible when you expect an excused absence so that we can make arrangements to keep you caught up with the class. I reserve the right to request a doctor’s note or other documentation regarding your excused absences. In very rare cases, I must dismiss a student from class who is either disrupting the learning environment or not participating appropriately. I call this mental absence, and I reserve the right to mark such students physically absent (unexcused) from class on these occasions.

Tardiness is disruptive to other students who arrived on time, and it prevents you from fully participating in class. Excessive tardiness will lower your participation grade. Three tardies will count as an unexcused absence from class.

Plagiarism is the unauthorized use of the words or ideas of another person. It is a serious academic offense that can result in referral to the Committee on Academic Misconduct and failure for the course. If you have any questions or concerns about plagiarism and/or crediting others’ work appropriately, please talk to me! I’m here to help!
Student work must be completed and submitted on time. You’ll turn in most of your written work via Carmen, and turn in the rest to me in class. Please use either the Microsoft Word format .doc or .docx or the text formats .RTF or .TXT unless the assignment specifies otherwise. Pages format (.wps) is not acceptable for assignment submission.

Drafts: For some of your major assignments, you will turn in a draft before submitting your final copy for a grade. Drafts will receive my comments and you will workshop them with your peer group members, but drafts will not receive formal letter grades. However, if you neglect to turn in a draft within 24 hours of the due date, you will receive a letter-grade penalty on the final version. This will continue for each 24 hours that the draft is late.

Late submission of a graded assignment will result in the deduction of one-third of a letter grade for each day past the due date (for example, B+ to C+). Exceptions to this policy may be made for excused absences on a case-by-case basis. I will gladly entertain requests for extensions if you feel you have a compelling case, but except in very dire circumstances, I do not accept work that is more than 5 days late or entertain requests for extension unless they are received 48 hours or more before the due date/time. Some small assignments may be graded on a 1 to 4 scale. For these assignments, late work will be penalized one point per day late.

Office Hours, Email and Draft Review Policy: I love talking with my students about their writing and coursework. I offer virtual office hours via Skype and iChat in addition to old-fashioned in-person visits. Unfortunately I cannot review your assignment drafts via e-mail, but I am always happy to discuss your drafts in office hours.

If you have a brief question or concern, then e-mail is the fastest way to reach me and I look forward to corresponding with you. I strive to return emails within 24 hours of receipt. However, if the question requires a complex answer, I may defer your question to office hours or class time so that you may receive the complete answer that you deserve (and that your classmates will often benefit from hearing!)

Class Cancellation Policy: In the unlikely event that I must cancel class due to an emergency, I will contact you via email and request that a note be placed on the classroom door. In addition, I will contact you as soon as possible following the cancellation to let you know what will be expected of you for our next class meeting.

Technology Policy: I recognize that many students use their cell phones and other technologies in positive on-task ways during class, and I welcome such gadgets in our classroom. During class, I may ask you to share how you are using your technology to help others understand the positive possibilities of technology in the classroom. This is not a punishment or an attempt to catch you doing something bad—in fact, in most cases, your classmates will be excited by how you’re using your technology and they may want to join in! However, if you are using your technology for non-class-related activity, you
may face consequences ranging from putting the technology away to a lowered participation grade to being dismissed from class. Let’s not go there.

Your cell phone may be used for class-related purposes, but please turn off cell phone ringtones and vibrate functions during class. If I hear your phone ringing or buzzing, I reserve the right to answer it myself. Of course if my phone rings during class, my students may answer it!

**What Constitutes a “Page” of Writing?** For your Research Paper progression of Phase 1, Phase 2, and Phase 3, assume that a page = US Letter sized paper (8.5” x 11”) with one-inch margins all around with double-spaced text in 12-point Times New Roman font. To count as a full page, there must be words all over the page. For example, you are currently reading a full page. The next page on this syllabus is only ¼ page. *If you are not from the US originally, please check your word processor’s paper size. You are probably set to A4 and you want to be on US Letter!*
Appendix C: Laptop Section Analytical Research Paper Prompt

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**Phase 1: Primary Source Analysis**

*Length: No less than 2 pages, no more than 3 pages*

For Phase 1 of the Analytical Research Project, your task will be to choose one and only one primary/exhibit source and write a focused analysis of that source using the new analysis techniques that you learned in class. Use your *Writing Analytically* textbook excerpt and handout for guidance on the type of analysis expected. Choose ONLY one source. For Phase 1 of the assignment, you should not plan to use any other outside sources unless you have express permission from Kristy to do so.

Be sure to follow the directions outlined in **Completing the Assignment** carefully. Your work should be double-spaced, typed in 12 point Times New Roman font or similar, and set to 1” page margins on US Letter paper. Please submit this assignment in .DOC, .RTF, or .TXT file format. This assignment will serve as the basis of your Phase 2: Secondary Source Integration and Phase 3: Analytical Research Project.

**Objectives:**

- Choose one primary source from an online Internet-based source. You may choose anything available on the public Internet. *Your do not necessarily have to choose a topic about social media, but for the ease of integrating this paper into Phase 3, I strongly recommend that you choose a source that’s embedded in social media.* For example, if you are passionate about dance, you could choose a *YouTube* video of a *performance* from the television show “*So You Think You Can Dance.*” We’ll work together in class to identify ideal sources for this assignment.

- Produce a focused analysis of the primary source you have chosen. Describe the key details that you find interesting, strange, or significant. Then describe the implications (aka “the so-what factor”) of these details and why the details interest you. Finish the analysis with a paragraph that includes one or two research questions that will help guide you toward developing a thesis and finding secondary source (argument-based) materials.
Getting Started:

• Make sure you understand the meaning of analysis. According to the authors of Writing Analytically, “An analysis would include more of the writer’s interpretive thinking” rather than the opinions and ideas of others (13). Analysis is concerned with how “complex subjects might be defined and explained” (12). Consider it your job to attempt to explain what is most strange or interesting about your primary/exhibit source.

• Remember that this analysis should not be a list, but should instead feel like a discussion that moves toward one or two research questions. This means that rather than attempting to mention everything you see, you should offer specific details relevant to the things you find most interesting, strange, or significant about this source.

• Remember that Writing Analytically’s brand of analysis includes four steps: Observation of details, identification of what makes those details interesting, identifying the implications/so-what factor of why those details are interesting, and generating research questions out of those implications.

Completing the Assignment:

1) Start by identifying basic information about the source. What is it? Where did it come from? Who made it?

2) Revisit the preliminary work you have done during what Writing Analytically calls the “discovery phase”—your work with The Method and other techniques from the analytical toolkit like Notice and Focus or Paraphrase x 3—to get started with your analysis. What do you notice? Give us specific detail about your “notices.” If you write with the assumption that the reader cannot see/view your original primary source and needs your guidance and description about the most important figures, you will be more successful.

3) Peruse the Five Analytical Moves to generate ideas (WA, Page 4-10). Brainstorm by describing the source in detail, breaking it down into its significant parts, talking about the patterns and connections between those parts, and, most importantly, making explicit the possible implicit meanings of what you see.

4) Even as you begin your analysis, remember to be specific. If the source is text-based (e.g., song lyrics, a selected paragraph from an article, etc.), examine the text line-by-line, teasing out the meanings and implications. If the source is image-based (e.g., a print advertisement), examine all the key, important elements that make up the image or object. This will more easily allow you to observe patterns or connections between elements, and begin working toward a more
5) When locating and describing key details, identify exactly what makes those details interesting, strange, or significant. Use these ideas to ask yourself the question “So why does that matter?” in order to arrive at implications about what you are observing. Use those implications to form research questions.

6) At the close of your analysis, end with one or two “research questions” (questions that arise from observations about the source) that you will use to begin thinking more deeply about your topic and to help you find materials for the upcoming Secondary Source Assignment. We will go over how to develop a research question in class to aid you with this last portion of the assignment.

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**Phase 2: Secondary Source Integration**

*Length: 4 to 5 pages in length, which includes any and all revised content from your 2-to-3-page Phase 1: Primary Source Analysis*

The Secondary Source Integration helps move you from initial research questions devised in the Phase 1: Primary Source Analysis to exciting outside sources that will deepen and enrich your ideas. Be sure to follow the directions outlined in Getting Started and Completing the Assignment carefully and to consult the provided course materials as you seek to extend your work from the Phase 1: PSA. The usual guidelines from the syllabus apply regarding “What is a Page?” and file submission formats (.doc, .docx, .rtf, etc.)

**Objectives:**

- Using the research questions that you developed in the Primary Source Analysis or the questions you discussed with Kristy in your research conference, find two (2) useful and relevant secondary sources to your analysis of primary (exhibit) sources. At least one of these sources must be a scholarly source, preferably from a peer-reviewed journal. Kristy will help you understand the term “scholarly source” in class and help you locate them use them productively. The other source may be any sort of source, popular or scholarly. Your sources may be Background, Exhibit, Argument, or Method sources, but students most commonly select Argument or Exhibit sources. Your work with these sources should help you revise and extend the work you’ve completed in Step 1: Primary Source Analysis. *Please limit yourself to only two outside sources; additional sources can be tucked away for later use in the Phase 3: Analytical Research Paper!*

- Demonstrate the ability to comprehend and report on the central arguments of these sources.

- Demonstrate the ability to use the analysis tools given early in the class (The Method, Paraphrase x 3, Notice and Focus, etc.) on a multitude of sources in order to deepen your analysis.
• Perform meaningful, thoughtful analysis of these secondary sources—in other words, enter into a conversation with the sources by making the sources speak rather than letting them speak for themselves.

• Assert and maintain your own critical voice rather than letting the secondary evidence speak for you. In other words, continue to analyze rather than forcing the secondary sources to answer the research questions for you.

• Integrate secondary sources into your analysis by paraphrasing and/or directly citing the critic’s language and ideas.

• Include proper in-text citations of each source and an appropriately formatted Works Cited page using MLA guidelines.

Getting Started:

There are several steps you might take in order to get started and to avoid what Writing Analytically calls “source anxiety” (216).

• Take cues from your Research Question(s) about the primary source to direct your search strategies for secondary sources. If, for instance, you asked a research question about social media as a potentially addictive or habit-forming behavior, you might search secondary sources in the health sciences or sociology and use keywords like “Internet addiction” and “social media AND habit*”. Keep in mind that finding secondary source material is not an exact science. Be patient and flexible, and be willing to revise search strategies, as you look for secondary sources.

• Employ your search strategies in various electronic media like the university library databases, Google Scholar, and social media channels to find useful, timely, relevant, and credible electronic or print sources. Again, we will discuss this in class.

Completing the Assignment:

Once you have found your two sources, use the secondary evidence to extend and revise the analysis completed in Phase 1: Primary Source Analysis. Take this opportunity to add new sentences to existing paragraphs, to add new paragraphs, and, in general, to revise the existing Focused Analysis. After this extension and revision, the completed assignment should be 4 to 5 pages. There are no extra points for going to the maximum page length; I would rather see 4 focused and thoughtful pages than 5 sloppy pages!

In order to complete the extension and revision of your previous work, consider the following steps:

1) Focus on your own analytical claims. Provided that interaction with secondary sources allows for one’s Research Questions to evolve and to take shape, revise or extend claims made in the previous assignment.

2) Focus on analyzing and integrating the secondary evidence into the conversation. This step can be difficult, for it builds on the skills you’ve developed with not only the
Analytical Moves but also with the basics of reading analytically. You should especially focus on:

a. Focusing “on articulating how the source has led to the conclusion you draw from it” (219). You might ask yourself whether or not you’ve explained the connection between your claims and the secondary evidence completely and explicitly.

b. Putting your sources into conversation with one another (WA 223). This move requires that you understand the arguments of the secondary source and are able to convey this understanding via methods of paraphrase and direct citation. As the title suggests, the emphasis of this step is on you making the sources speak rather than letting the words that you paraphrase or cite speak for themselves. Instead of letting the secondary evidence speak for itself—or worse, to let the secondary source speak for YOU—you should maintain your own critical voice and make clear that the secondary evidence is one part of the conversation – not the featured speaker.

c. Integrating Sources using strategies for paraphrase, citing, and quoting discussed in class.

d. Citing Sources in proper MLA Style. You should end the assignment with correct MLA Works Cited entries of the two secondary sources AND your original primary/exhibit source!

Due dates for this assignment can be found on our course schedule. For your DRAFT of the Secondary Source Integration to be reviewed by your classmates, you need only submit THREE pages to receive credit for submitting a draft and you need only integrate ONE outside source. However, you may submit up to 5 pages (a full length draft) if you like. Incomplete drafts are okay, but unacceptably short drafts (less than three pages) will incur a late penalty of 1/3 grade per day that will affect the grade on your final Secondary Source Integration and will hurt your participation grade.

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Phase 3: The Analytical Research Paper

Length: 7 to 8 pages, which includes any and all revised content from Phase 1: Primary Source Analysis and Phase 2: Secondary Source Integration. You should include a mandatory Works Cited section at the end of your paper, but that Works Cited page does not count toward your page length of 7 to 8 pages.

The Analytical Research Paper, then, is the culmination of The Analytical Research Project. For the Analytical Research Paper, you will analyze a primary source relevant to the course topic and will formulate an argument (also known as a “claim”) about this evidence. Because this assignment emphasizes research undertaken for and communicated to an academic audience, you will also integrate secondary evidence into your analysis of the primary/exhibit source.
In this final step of the research paper sequence, we ask you to transform your analysis into a thoughtful, complex, compelling, and academically relevant argument. Your argument should have a clear and direct relationship with the analysis that you completed during Phases 1 and 2 of this assignment. Partly because this is an argument-based paper, you will be evaluated both on the quality of your analysis and the organizational and sentence-level attention you give to creating an argument accessible to your audience. You may choose the specific audience or sub-audience that you wish to address, and your paper will be partly evaluated on Kristy’s ability to discern that target audience and your ability to communicate your analysis-driven argument to that specific audience.

This assignment should be 7 to 8 pages in length, double-spaced, typed in 12 point Times New Roman (or similar) font, and set to 1” margins on US Letter size paper. As this is the final step of the Analytical Research Project, there are several objectives—many of which will remind you of objectives from the PSA and SSI assignments, but some of which are new.

Objectives:

- Analyze primary sources, what messages they convey in written, visual, and/or audio media.
- Explore and make claims about how the messages are conveyed.
- Discuss to whom the message is conveyed and speculate about the effectiveness of this message for a specific audience.
- Develop a complex thesis that makes a claim about how a primary/exhibit source communicates a message to a specific audience.
- Introduce complicating evidence and integrate it in such a way as to attempt to include what Writing Analytically terms an “evolving thesis.”
- Demonstrate awareness about one’s role in the conversation about your Research Question and thesis by acknowledging what’s at stake in your analysis.
- Integrate secondary sources in a way that accounts for aspects of the academic conversation that are relevant to the paper’s thesis.
- Connect your topic and thesis back to the course theme, “Rhetoric in the Social Media Era” in a thoughtful, complex way that sheds light on how social media functions in culture. There is no requirement that this be at the heart of your argument or the main topic of your argument, although for some of you that may be the case. For those who do not form an argument primarily about social media—and Kristy emphasizes again that that is absolutely fine to have an argument that is not primarily about social media—you are still expected to address connections to the course theme somewhere in the paper and in a way that thoughtfully integrates your research with so-what factors about social media.
• Include a title on the first page that reflects the complexity of the paper’s general purposes.

• **Include proper in-text citations of each source consulted or referred to and an appropriately formatted Works Cited page using MLA guidelines.** Your paper must reference at least three sources: your primary/exhibit source and two secondary sources of which at least one must be a scholarly peer-reviewed source. It’s your decision whether to “keep” the secondary sources that you used in the Phase 2: SSI or seek new sources. You are also welcome to use as many other outside sources as you like. Remember, however, that you are being assessed on the quality of how you use these sources, not the number of sources you use.

• Develop a logical organization structure for your essay, including effective paragraph-level organization and use of transitions and topic sentences, to help guide your intended academic audience through the essay.

• Observe the standards of academic writing discussed in class and avoid sentence-level errors and lapses in tone. Produce fluid and clear prose with appropriate transitions throughout.

**Completing the Assignment:**
In completing Phase 1: Primary Source Analysis and Phase 2: Secondary Source Integration, you will have developed analytical claims about the primary evidence, formulated Research Questions, and revised your analysis to integrate secondary evidence. Once you’ve completed these steps, you will be ready to complete the Analytical Research Paper. In order to complete this assignment, you will want to focus on complicating and evolving your thesis, organizing your essay in a clear and logical fashion, and polishing your writing by paying attention to tone, style, and the mechanics of grammar. As you complete the assignment, consider these questions:

1) **Have I explored the primary evidence thoroughly and developed complex and compelling analytical claims about the primary evidence?**

2) **Have I explained the connection between my analytical claims and the primary and secondary evidence thoroughly and clearly?**

3) **Have I maintained my own analytical voice amidst the dialogue of my analysis of the primary evidence and the claims of the secondary evidence? Am I making unique and compelling arguments that reflect my curiosity throughout the research process?**

4) **Have I composed and arranged my paper in a way that makes my meaning clear and that adheres to an internal logic of progression?**

5) **Have I cited sources that I reference in text and in my Works Cited?**

Due dates for this assignment, including due dates and required length for the draft, can be found on our course schedule. Drafts that are submitted late will incur grade penalties.
on your final essay (example: if your draft is one day late, the final ARP essay will be marked down 1/3 of a letter grade).
Appendix D: Community Literacy Course Final Multimodal Project

For your final project in this class, teach team will write a curated exhibit that reports on the field research that the members of your team have done during the term and that gathers together the teams' reflections on what individuals have learned from doing this important work. For an example of a curated exhibit, although on an entirely different topic, see this exhibit by a young man at the Virginia Military Institute. It is not on the same topic as your team's curated exhibit, but it will give you an idea of how such an exhibit is put together and what it looks like.

The audience for your project will be the church congregations and leaders with whom you have worked, the teachers of the class, and the other students in this class. Depending on the skills represented on your team, you can create your Team's Final Project in any of the following formats:

- Word (on your team's Mac computer, not on a PC)
- Dreamweaver or another web editor (web text)
- Prezi (downloaded for handing into the professor)
- PowerPoint

NOTE: This important project will be assigned both a team grade (see Final Project team grading criteria below) from the instructors and an individual grade (see Final Project individual grading criteria below) which team leaders will fill out and provide the instructors for each member of the team.

Goals

- To report on your team's field research effort in a focused and structured formats.
- To acknowledge and thank the individuals who have contributed interviews to your team's project and the church(es) to which these individuals belong.
- To identify research-based observations—based on specific video-interview evidence—about how the Black Church sustained and encouraged individuals' literacy practices and values.
- To reflect on what each individual team member has done and learned through conducting the research have learned from this research.
- To gain expertise in creating a presentational exhibit.

Structure

- The Final Project will be a team-based project, but each member of the team will be responsible for adding his or her own parts to the exhibit.
• Each web-based exhibit will consist of 5 different sections, and each section will have a written introduction and accompanying artifact(s). These web-based exhibits will be bound together by 2-3 focusing questions (drawn from our readings).

The basic structure of the exhibits is as follows:

**Section #1**
A short overall written introduction to the team's exhibit (150 words or less) that summarizes the work that the group did during the course of the term. Possible topics: which church(es) the team focused on, how many people the team members interviewed, what tasks the team learned to do, how the team members learned to work together. This introduction should be thoughtful and carefully edited.

*accompanying artifacts:* short, carefully edited video clips (1 per team member) of each individual talking about one or more aspect of the work that their team accomplished during the term. Each of these clips should focus on what a specific team member learned and should not contain duplicate information.

**Section #2:**
A short, carefully edited bulleted list (200 words or less) that identifies 2-3 focusing questions for the team's exhibit. For example: What social/cultural role does the Black Church play in encouraging and sustaining the literacy practices and values of community? What are the specific literacy practices and values that individuals learn from/within their church? What is the relationship between the literacy practices in Black churches and the literacy practices in public schools? What is the relationship between the literacy practices in Black churches and the literacy practices in family homes?

As a group, the team should come to a consensus about the questions to be used, identifying those questions that their interview participants (church members) addressed most fully/in the most compelling ways during their interviews. These focusing questions should serve to bind the exhibit together—like the thesis sentence/focusing sentence of a written essay.

*accompanying artifact:* a short written team paper (500 words or less), carefully edited, that explains how the 2-3 focusing questions are related to/grow out of key themes raised in at least three different readings used in the class. Teams are encouraged to use quotations (and in-text citations with specific page numbers) from specific readings to explain how the focusing questions relate to key themes in the class readings. This essay should also include a bibliography (MLA or APA) that identifies all readings cited.

**Section #3:**
A short written introduction (400 words or fewer), carefully edited, that outlines a
brief history of the church(es) on which the team has focused their efforts during the term and identifies the individuals whom the team has interviewed (names, roles within the church). Church history should be based on (but not plagiarized from) official church documents. A list of these documents should be included in a bibliography.

**accompanying artifacts:** a short, carefully edited video clip (no longer than 2 minutes per person) for each person they interviewed during the term. In these video clips, the contributor should introduce themselves and give their name. In addition, 3-4 video clips/photographs about the church(es) and its history.

**Section #4:**
A short written abstract (250 words or less), carefully edited, that summarizes responses to the exhibit's focusing questions and identifies the team's key observations about how the Black church has influenced/shaped the literate lives of the individuals on which they are focusing.

**accompanying artifacts:** a thoughtful, carefully edited written group paper (750 words or less) that identifies the team's key observations about how the Black church has influenced/shaped the literate lives of the individuals in which they are focusing. This group paper should be organized around the focusing questions of the exhibit and should be accompanied by 6-8 short video clips (no more than 2 minutes each) that provide evidence for the arguments/claims made within in the paper.

**Section #5:** A short, carefully edited abstract (no more than 150 words) that summarizes what the team members have learned through the process of collecting literacy narratives during the term and why they consider the work important.

**accompanying artifacts:** for each team member, a short, carefully edited video clip (2 minutes or shorter) and a thoughtful, carefully-edited individually authored reflective paper (500 words or less) about what each author has learned as a literacy researcher during the term. This written reflection essay should explore why each author considers the work that he/she did to be important. The video reflection and the reflective essay should not contain redundant information.

**Hints for Succeeding on This Assignment:**
- Make sure all of the sections in your exhibit are done according to the directions above
- Make your project design is clean, elegant, simple (look at the VMI example as a model).
- Use a spell checker--on every last file, every last word.
- Write multiple drafts; have team members read each draft and help you revise it.
- Get your own segments of the Final Project to your team leader on schedule.
• Put all the exhibit files (texts, videos, photographs, PowerPoint files, Word files, Prezi files, Dreamweaver files) in a single digital folder handed into the instructors on a jump drive by 5:00 pm on Monday, 28 November 2011.

Team Grading Criteria (used by instructors)
1. For Section #1, the team has included an effective written introduction to the team's exhibit (150 words or less) that summarizes the work that the group did during the course of the term.
2. As accompanying artifacts for Section #1, the team has included effective and carefully edited video clips (one per team member) of each individual talking about one or more aspect of the work that their team accomplished during the term. Each of these clips focuses on what a specific team member learned and do not contain duplicate information.
3. For Section #2, the team has included a carefully articulated bulleted list (200 words or less) that identifies 2-3 focusing questions for the team's exhibit.
4. As the accompanying artifacts for Section #2, the team has included an effective, carefully edited written team paper of 500 words or less that explains how the 2-3 focusing questions are related to/grow out of key themes raised in at least three different readings used in the class. The paper makes good use of quotations (and in-text citations with specific page numbers) from specific readings and includes a bibliography (MLA or APA) that identifies all readings cited.
5. For Section #3, the team has included an effective and carefully edited written introduction (400 words or fewer) outlining a brief history of the church(es) on which the team focused their
6. For the accompanying artifacts in Section #3, the team has included effective and carefully edited introductory video clips (no longer than 2 minutes per person) for each person they interviewed during the term, as well as 3-4 video clips/photographs about the church(es) and its history.
7. For section #4, the team has included an effective and carefully edited written abstract (250 words or less) that summarizes responses to the exhibit's focusing questions and identifies the team's key observations about how the Black church has influenced/shaped the literate lives of the individuals they interviewed.
8. As the accompanying artifact for Section #4, the team has included an effective and carefully edited group paper (750 words or less) that identifies the team's key observations about how the Black church has influenced/shaped the literate lives of the individuals. This group paper is organized around the focusing questions of the exhibit and is accompanied by 6-8 short video clips (no more than 2 minutes each) that provide evidence for the team's claims.
9. For Section #5, the team has included an effective and carefully edited written abstract (no more than 150 words) that summarizes what the team members have learned through the process of collecting literacy narratives during the term and why they consider the work important.
10. For Section #5, each team member has created a short, carefully edited video clip (2 minutes or shorter) and authored a thoughtful, carefully edited reflective paper (500 words or less) about what the author has learned as a literacy researcher during the term and a written reflection essay that explores why the author considers the work that he/she did to be important.

**Individual Grading Criteria** (used by team leaders)

1. Individual student's contributions to the Final Project were carefully done and thoughtful.
2. Individual student handed in contributions on time to team leader.
3. Individual followed directions in preparing their part of the Final Project.
4. Student took responsibility for his/her fair share of the group portions of the Final Project.
5. On the Final Project, student worked independently, needed little supervision, required only minimal reminders, and communicated well with group members.
Appendix E: Community Literacy Course Team Professionalism Document

Each team will be expected to collect 8-10 literacy narratives. *Undergraduate team members must work in pairs or with a community member or a graduate student when conducting interviews.*

Team members who put in effort over and above their share of this minimum can expect their Team Professionalism grade to reflect that fact.

**Responsibilities of Team Members (Undergraduate Students)**

**Readings:** All team members will complete the assigned course readings and participate in active discussions of the readings.

**Interviews:** Teams will work with individual church liaison representatives and/or community members within the class to contact potential Contributors/Participants, schedule interviews at a convenient place and time, send them a *What to Expect in Your Interview letter* (either by post or e-mail), and record their literacy story(ies).

*Team members should confirm all interview appointments with the Contributors/Participants one day in advance of the interview.*

Teams can also contact and cultivate their own sources/participants in addition to those suggested by the church liaison representatives in the class, but they must work with the church liaison representatives as well. All interviews should be with members of Black churches in Columbus and about the role of the Black church in encouraging and sustaining literacy.

**Etiquette:** Team members should visit the church of their church liaison representative at least once during the term. Please let your Church team liaison know well in advance when you are planning to visit the church.

Whenever you make advanced plans to interview a Participant/Contributor, send them a *What to Expect in Your Interview* letter (either by post or e-mail) before their interview and always confirm your interview by telephone at least 24 hours in advance. See Interview *Process Check Sheet.*

Teams are responsible for being professional, courteous, and curious. They should aim at minimizing the effort and maximizing the comfort of potential Contributors/Participants.
**Interview Scheduling:** During Weeks 5 and 6 there will be little homework for this class except for scheduling and conducting interviews. **During these weeks, students will be expected to spend a minimum of 3 hours a week outside of class scheduling and collecting narratives.** *(Note to Graduate Students: Check the syllabus as always; you have assigned readings in Weeks 2, 3, 4 and 5.)*

**Weeks 5 and 6 all teams can schedule interviews at a local Black church or at the Center during class hours.** Team leaders need to work with team members to make sure these hours are fully scheduled with interviews so the team can make maximum use of this in-class time. The more interviews teams do during class, the fewer they need to do outside of class. Team leaders will take attendance for these sessions.

Teams and team members can also schedule interviews outside of class at any time.

**Record Keeping and Protocol**

Team members are responsible for completing their fair share of **Interview Process Check Sheets** for each major interview session the team conducts. Team members are responsible for saving a copy of their Interview Process Check Sheets for the team records. **This duty should be coordinated with the Team Leader.**

Team members are responsible for completing their fair share of **Interview Log Sheets** for each interview session with a Participant/Contributor. This sheet provides some very basic field notes (e.g., the Participant/Contributor's name; the time, duration, and location of interview sessions; the team members present and their roles) and asks you to reflect on the key themes/issues of each interview, to make observations about Participant/Contributors and their literacy practices/values, to think about the relationships between the Participant/Contributor and the various churches to which they belong, and to think about your own work and approach as a researcher. The information on these log sheets is crucial because it forms the basis for your discussion in class, the team's **Final Project** at the end of class, and the evaluation Team Leaders do for each team member. Team members are responsible for saving a copy of their Log Sheets for the team records. **This duty should be coordinated with the Team Leader.**

Team members are responsible for doing their fair share of the team's **Final Project** and making sure this project is turned in to the instructors by the due date. **This project should be coordinated by the Team Leader and carefully proofread by the entire team.**

Team members are responsible for writing a thank you note to each Participant/Contributor after an interview. Team members are responsible for saving a copy of their Thank You Notes for the team records. **This duty should be coordinated with the Team Leader and carefully proofread by the entire team.**
Teams are responsible for keeping copies of all digital files (interviews, photographs) clearly labeled with the Contributor's/Participant's names in a single Team folder on the Center computers. This digital folder is to be handed in to the teacher by the Community Presentation Night.

Teams are responsible for keeping copies of all paper files (completed Interview Log Sheets, Interview Process Check Sheet, Literacy Archive forms) in Team folders. Organize the forms for a single participant by clipping them together. This paper folder is to be handed in to the instructors by the Community Presentation Evening.

Presentations

For the Midterm Reflection class session, each member of the class will prepare a five-minute Reflection Presentation.

For Community Presentation Night, each team will give a team presentation about their team's efforts and interviews during the term—using their Final Project as a focus (time limit 10 minutes).

The idea of the Final Project presentation is to document what the team learned about the role of the Black Church and how it has shaped the literate practices of individual Columbus citizens. The final presentation can also touch on the team's their growth and development as researchers, and their collective accomplishments.

Responsibilities of Team Leaders

Team leaders are responsible for the following:

- Modeling how to ask effective, respectful, engaging questions to Speakers who come to the class.
- Helping team members practice their interview skills during class discussion, hone them during in-class interviews with Community Partners, and practice them during scheduled interviews.
- Making sure that team members put in an appropriate share of work on the team interviewing efforts.
- Working with individual church liaison representatives and team members to coordinate the scheduling and interviewing of Participants/Contributors throughout the term, and especially during the in-class interview days at local churches or the Center (Weeks 5 and 6).
- Helping team members reflect honestly and productively on their interviewing/research skills: filling out and handing in an ungraded "no count" Team Member Performance Sheet in Week 7 and a graded Team Member Performance Sheet due on the final Community Sharing Night.
• Making sure that team members take turns filling out a Log Sheet for each major Participant/Contributor interview—these field notes should be complete, accurate, thoughtful, and reflective. These sheets will provide valuable information for evaluating undergraduate team members' on the ungraded "no count" Team Member Performance Sheet in Week 7 and a graded Team Member Performance Sheet due on the final Community Sharing Night.

• Helping team members put together their Final Project. In this project, team members will reflect in meaningful ways on what they have learned about the role of the Black Church and how it has shaped the literate practices of individual Columbus citizens. The Final Project can also touch on the team's growth and development as researchers, and their collective accomplishments.

• Filling out and handing in a Final Project Individual Grading sheet for each member of the team.

• Coordinating the team members' efforts in support of the Community Sharing Night.
Appendix F: Call for Proposals for the *Stories about Literacy* Edited Collection

Stories about Literacy: Curated Exhibits from the Literacy Archive

The literacy stories that people tell speak to us. The narratives we hear about reading and composing bring alive our scholarly understandings of those socially constructed processes, as well as the complex cultural, political, ideological, and historical contexts which shape and are shaped by those practices and the values associated with them. Among other things, such stories animate historical, personal, and familial literacy values; they reveal with x-ray clarity the effects our educational practices; they illuminate multiple relational identifications that happen around, and because of, literacy; they are saturated with cultural and personal beliefs about language, reading, and writing. They remind us that personal perspectives on literacy practices and values reveal information that statistics and experiments cannot fully capture.

The proposed collection is a theorized response to such reminders and an exploration of why we created the Literacy Archive. The collection is meant to explore the value of literacy narratives and to articulate why and how we consider them useful in studying literacy, how they carry important information about reading and composing that is valuable, not only for scholars and teachers, but for librarians, community literacy workers, individual citizens and groups of people. Such narratives, we maintain, are powerfully rhetorical linguistic accounts through which people fashion their lives, make sense of their worlds, and construct the realities in which they live. These narratives are sometimes laden so richly with information that our conventional academic tools/genres/ways of discussing their power to shape identities; to persuade, and reveal, and discover, to create meaning and affiliations at home, in schools, communities, and workplaces, are inadequate to the task. This edited collection seeks to push the boundaries of this task in new ways and within multimodal environments.
This call for proposals invites individuals who have worked with literacy narratives in the Literacy Archive to select a subset of 3-5 video, audio, alphabetic narratives (either already in the Literacy Archive or submitted to the Literacy Archive as part of this project) and curate a born-digital exhibit that theorizes the literacy practices and values identified within these narratives and interprets them through one or more lenses (e.g., narrative theory, social theory, feminist theory, rhetorical theory, queer theory, identity theory, transnational theory/ESL, cognitive theory, etc.). The curators of the exhibits should also comment explicitly on the intellectual work that video, audio, or alphabetic literacy narratives accomplish within this theorized context given their particular affordances.

This is a born digital collection. Multimodal exhibits can be designed/authored in one of four environments: Prezi, media-embedded .pdf, Sophie, or html.

Deadline for one-page proposals: 15 May 2010

Project Timeline
15 May 2010    Deadline for one-page proposals.
5 June 2010    Editorial decision about inclusion.
1 Sept. 2010    Completed drafts due to editors.
10 Oct. 2010   Editorial revision suggestions sent to authors.
Appendix G: State University Undergraduate Student Statistics

Table 26 below reports statistics on race, age, fulltime/part-time enrollment, and residence for State University undergraduates during the 2011-2012 academic year, as reported by State University’s Office of Enrollment Services and Office of Institutional Research and Planning. The terms used in this chart reflect the terminology used by the Offices.

Table 26: State University Undergraduate Student Statistics

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native, non-Hispanic</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>Asian, non-Hispanic</td>
<td>5%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3%</td>
</tr>
<tr>
<td>Native Hawaiian or other Pacific Islander, non-Hispanic</td>
<td>Less than 1%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>75%</td>
</tr>
<tr>
<td>Two or more races, non-Hispanic</td>
<td>1%</td>
</tr>
<tr>
<td>Nonresident aliens</td>
<td>7%</td>
</tr>
<tr>
<td>Race and/or ethnicity unknown</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditionally-aged (18-24)</td>
<td>92%</td>
</tr>
<tr>
<td>Non-traditionally-aged (25+)</td>
<td>8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enrollment Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fulltime</td>
<td>91%</td>
</tr>
<tr>
<td>Part-time</td>
<td>9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Residence</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>On campus resident</td>
<td>22%</td>
</tr>
<tr>
<td>Near campus resident (lives within 3 miles of campus)</td>
<td>14%</td>
</tr>
<tr>
<td>Commuter (lives 3 or more miles from campus)</td>
<td>42%</td>
</tr>
</tbody>
</table>

No local address provided 22%

128 Student racial demographics were represented in the Institutional Research and Planning report as raw numbers. I converted these numbers to percentages for comparison purposes.
Appendix H: Background Information on EDUCAUSE’s Annual ECAR Study of Students and Information Technology, 2004-2012

Table 27 below provides background information on how the ECAR data used in Chapter 2 was collected. Using information provided by the EDUCAUSE organization, I identify the number of institutions included in each year’s report, the number of students (and when possible, their academic status), and the methods of data collection and analysis used by the EDUCAUSE researchers.

Table 27: Background Information ECAR Studies of Students and Information Technology, 2004-2012

<table>
<thead>
<tr>
<th>Year</th>
<th># Institutions Involved</th>
<th># Students Included</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>195</td>
<td>More than 100,000 students</td>
<td>Qualitative and quantitative questionnaires</td>
</tr>
<tr>
<td>2011</td>
<td>1,179</td>
<td>Nationally representative sample of 3,000 students</td>
<td>Qualitative and quantitative questionnaires</td>
</tr>
<tr>
<td>2010</td>
<td>100 4-year, 27 2-year</td>
<td>Questionnaire responses from 36,950 freshmen, seniors, and community college students</td>
<td>Qualitative and quantitative questionnaires, focus groups, review of qualitative data from open-ended questions</td>
</tr>
<tr>
<td>2009</td>
<td>103 4-year, 12 2-year</td>
<td>Questionnaire responses from 30,616 freshmen, seniors, and community college students</td>
<td>Qualitative and quantitative questionnaires, focus groups, review of qualitative data from open-ended questions</td>
</tr>
</tbody>
</table>

Continued

129 See Dahlstrom.
130 See Dahlstrom, de Boor, Grunwald, and Vockley.
131 See Smith and Caruso.
132 See Smith, Salaway, and Caruso.
Table 27 continued

<table>
<thead>
<tr>
<th>Year</th>
<th>Study Design</th>
<th>Group Size</th>
<th>Sample Size</th>
<th>Data Collection Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Questionnaire responses from 27,317 freshmen, seniors, and community college students</td>
<td>90 4-year</td>
<td>Nearly 29,000 freshmen and seniors</td>
<td>Qualitative and quantitative questionnaires, focus groups, review of qualitative data from written responses to open-ended questions</td>
</tr>
<tr>
<td></td>
<td>Student focus groups (75 students from 4 institutions)</td>
<td>8 2-year</td>
<td>Nearly 4500 freshmen and seniors</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Questionnaire responses from 27,846 freshmen, seniors, and community college students</td>
<td>103 2- and 4-year</td>
<td>Nearly 29,000 freshmen and seniors</td>
<td>Quantitative questionnaires</td>
</tr>
<tr>
<td>2006</td>
<td>Nearly 29,000 freshmen and seniors</td>
<td>96 4-year</td>
<td>Nearly 29,000 freshmen and seniors</td>
<td>Quantitative questionnaires</td>
</tr>
<tr>
<td>2005</td>
<td>More than 18,000 freshmen and seniors</td>
<td>63 4-year</td>
<td>More than 18,000 freshmen and seniors</td>
<td>Quantitative questionnaires</td>
</tr>
<tr>
<td>2004</td>
<td>Nearly 4500 freshmen and seniors</td>
<td>12 4-year</td>
<td>Nearly 4500 freshmen and seniors</td>
<td>Quantitative questionnaires</td>
</tr>
</tbody>
</table>

135 See Salaway, Katz, and Caruso.  
136 See Caruso and Kvavik.  
137 See Kvavik and Morgan.
Appendix G: Anecdotal Representations of Foraging in the Literature on Youth Digital Literacy Development in Affinity Communities

The representations of digital literacy resource foraging in the existing literature, examples of which are summarized below, begin to suggest how foraging for digital literacy resources works, foreshadowing some of the spheres and methods found in my case studies. These foraging anecdotes are located within affinity communities, a particular type of peer sphere which classroom-based digital composing pedagogies cannot assume students will have access to.

**Anecdote 1**: Victoria Carrington describes how young bloggers and digital photographers learn how to blog and create/disseminate digital photographs online. The youth Carrington profiles receive material and intellectual support of their parents and from adult visitors to their sites who comment on the young content creators’ technique and recommend future projects.

**Anecdote 2**: Rebekah Willett’s study of the Bentley Bros, a group of four teenage boys living in rural England who create popular amateur comedy videos on YouTube, touches on how they learned their craft. The Bentley Brothers explained that they taught themselves how to create and edit videos, which range from improvised shorts to hour-long scripted, directed, fully cast and costumed films.

While participants like the Bentley Bros often represent themselves as being self-taught, Lange and Ito suggest that what digital composers working in online affinity spaces often mean is that they did not receive formal instruction in the image and video editing, video game design, web development, and other digital composing tasks they perform. What they mean is that they sought out resources online located in people and texts, which Lange and Ito distinguish from being self-taught. Describing SnafuDave, one of their participants, they suggest that

> Despite his adoption of “self-taught” discourse, SnafuDave nonetheless described learning to use Photoshop, Flash, and Illustrator by making use of online tutorials and a network of graphic artists he met online. When makers describe themselves as self-taught, they are generally referring to the fact that they did not receive formal instruction, and they will acknowledge various sources of help they turned to to get started. […] Despite the centrality of self-directed learning in young people’s stories of how they got started in video production, successful entry into production is enabled by a wide range of social and technical resources that support as-needed help and learning. What self-motivated youth require to pursue
these interests is not so much a formal instructional setting as access to wide-ranging sources of expertise. (262-263)

Anecdote 3: Patricia G. Lange and Mizuko Ito document how Jacob, one of their research participants, designed his MySpace page using high-end professional software like Photoshop, Flash, Dreamweaver, and Fireworks that he accessed at a local community center. They also note how Jacob called the friends who recommended he join MySpace for help when he ran into problems designing his profile page, and mention that when Jacob’s friends could not answer his questions, they asked other, non-mutual friends to access digital literacy resources for him.

Anecdote 4: To illustrate how the structure and design of video games encourage players to view the game as an environment they can critically evaluate and alter, Gee examines a story told by Adrian, one of the players he studied. Adrian describes using software downloaded from the Internet to open up videogame code and modify the games he plays, commenting that “‘You don’t learn this stuff by taking a class on it. It’s just like here and there you pick stuff up. You may not be able to learn it all from the one place, there are many sources [e.g., other people, chat rooms, websites, texts, etc.]’”

Anecdote 5: Jonathan Alexander describes the digital literacy demands of playing a complex, multiplayer videogame (manipulating an avatar in the game while simultaneously communicating with other players in text and voice modes to coordinate play) and highlights the digital composing work many gamers do outside the game to create online affinity spaces in which players communicate to plan activities and exchange tips.