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# "That Doesn't Sound Like Me:" Student Perceptions of Semiotic Resources in Written-Aural Remediation Practices

Jennifer Johnson Buckner  
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**“THAT DOESN’T SOUND LIKE ME”: STUDENT PERCEPTIONS OF  
SEMIOTIC RESOURCES IN WRITTEN-AURAL REMEDIATION PRACTICES**

by

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May 2014

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## **ABSTRACT**

### **“THAT DOESN’T SOUND LIKE ME:” STUDENT PERCEPTIONS OF SEMIOTIC RESOURCES IN WRITTEN-AURAL REMEDIATION PRACTICES**

Jennifer Johnson Buckner  
Old Dominion University, 2014  
Director: Dr. Louise Wetherbee Phelps

This dissertation examines students’ composing practices when working with unfamiliar modalities, attending to students’ messy material and cognitive negotiations prior to their production of a polished multimodal project. Working from a conceptual vocabulary from composition studies and semiotics, I frame composing as an act of semiotic remediation, attending to students’ repurposing and understanding of written and aural materials in composition and their impact on their learning. Specifically, this research uses a grounded theory methodology to examine the attitudes, experiences, and composing practices of first-year writing students enrolled in a composition II course at a private, liberal arts institution in the South who were tasked with revising their writing into—and through—sound editing software to complete an “audio revision project.” This study examines the practices and evolving attitudes of seven students using various materials and the impact of their composing process on learning and interpersonal development. Findings from this study are used to develop a body of concepts that work together to theorize about the impact of semiotic remediation on students’ composing practices and their learning.



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This dissertation is dedicated to Danny, Emma, and Mary Jane.

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## CHAPTER ONE

### PRELUDE

Imagine this dissertation as an audio remix. Instead of reading written paragraphs, you are listening to my voice. You plug in your headphones, cue up an audio device, and listen to me riff about writing, sound, materiality, voice, bodies, and mediation. My voice reverberates as you feel punctuated rhythms, vibrations, and variations in pitch. Because I am talking, you experience my remixed dissertation as it unfolds over time. There's no looking ahead or checking a table of contents to see what I will talk about next. Just trusting, waiting, and listening. This *diss remix* presents you with an all-at-once sensory immersion of sounds. My voice mingles with student audio, layered with tracks of other scholars' voices, and backdropped by digital soundscapes. Such a sensory experience would present laminated chronotopes of theory and practice that speak in this dissertation, ideas and sounds simultaneously occurring, both resonant and dissonant. In a digital audio immersion, you would experience my dissertation in fundamentally different ways than you will in its linear, logical written form. Perhaps even now my use of second person "you" is making you uncomfortable. And that makes sense, given this is a written dissertation with its own set of rules and literate practices. And "you" isn't part of formal, academic discourse, nor is beginning a sentence with and. Still you are present, engaging in embodied interactions with this dissertation when scrolling your mouse or turning pages.

Digital sound might seem like an outstanding form for a dissertation when considering its history as an artifact of formal, written discourse. Our perceptions of what

sound or writing can be are informed by our histories, our practices, and our attitudes about composing in these modes. I wonder, could an audio dissertation be as academic? As extensive? As a text situated in a world only beginning to recognize digital dissertations, I concede to present you with an alphabetic script. But I do so asking that you not forget that even this document is shaped by materialities of its composing. For this reason, I open by making transparent the materiality of this word processed, alphabetic, linear script by evoking speech or digital remix as an alternative form. Consider this brief, imaginative remediation of written-aural dissertation an exercise in understanding how texts, materials, modes, and bodies shape—and are shaped by—situated worlds of sensory perception. And an invitation to examine these situated relationships within writing, sound, and mediation.



## CHAPTER TWO

### INTRODUCTION AND LITERATURE REVIEW

Until we are willing to recognize the symbiotic and systematic relationship between technology, culture, and individuals, willing to explore the implications of technology on our own literate practice and mental lives, and willing to enter fully into the various discourses of technology, scholars and teachers of literacy—arguably the group that has most at stake as technology remakes writing—are abdicating responsibility and power in helping to determine how technology and literacy are made, through use, in our culture.

(Haas 230)

#### Introduction

Writing classes are no longer limited to composing in alphabetic script, measured in paragraphs and punctuation marks. Recently, writing teachers have expanded composing tasks in first-year writing classes by asking students to work with different expressive media such as image, video, and sound, often calling these assignments multimodal. In this current environment, multimodal projects are becoming a standard component of first-year composition classes, if not the focus of an entire class in a university's core curriculum.

These efforts reflect a movement in composition studies to expand our notions of what constitutes literacy and literate practices. Western scholars such as the New London Group are expanding literacy territories by promoting terms more inclusive of various mediums for expression and reframing attention to these competencies in terms such as "multiliteracies" or "new literacy studies" (New London Group, Street). New literacy studies scholars aim to provide ways of framing pedagogical approaches that meet today's shifting landscape of discourse and textual practices. These scholars are expanding notions of literate practice through their pedagogical inclusion of speech, illustrations, digital narratives, visualizations, movement, and performance (Dunn;

Fishman, Lunsford, McGregor, and Otuteye; Wysocki, Johnson-Eilola, Selfe, and Sirc). In doing so, these scholars are advocating for including various modalities, such as image, sound, and video, and outlining what these modalities can afford composition studies. They often do so by inviting educators to consider how non-dominant modes of expression (i.e. those other than writing) will provide alternate means to meet disciplinary goals that align with our existing philosophies.

Recently, scholars are moving beyond advocacy for including non-dominant products to examine student composing processes when creating multimodal texts. In this scholarship, scholars often present case studies whereby a student's creation of a multimodal text is contextualized within his/her history of practice, climate of school, and cultures of influence. Often scholars in these studies examine how multimodality provides a means for students to identify strongly with a non-dominant mode, creating compositions that better actualize their self-expression. Such narratives are powerful in promoting our integration of alternate modalities into composition studies. They only present part of the picture, though. Rather than simply examining successful instances of multimodality, we should also be looking closely at moments when asking students to compose with non-dominant modalities creates a problem. Often missing from our scholarship are narratives that capture moments of frustration and negotiation as students learn to compose with different materials, or perhaps they use a familiar material but in a strange context. For example, students can get frustrated when completing tasks with media that they have little or no background knowledge of, especially when those compositions are graded.

We are in a unique position, as a field dedicated to understanding composing processes, to understand ways that individuals create meaning through shaping various media. While we have a growing body of scholarship that narrates accomplishments in multimodal compositions, we do not have a body of scholarship that focuses specifically on learning situations where students face problems negotiating unfamiliar modes in composing. It is important that we move beyond multimodal advocacy and draw from our discipline's strength and methodologies for researching composing processes, specifically in studying how students understand modal features through their descriptions and actions when working through unfamiliar composing processes. These understandings and actions will then uncover ways that aspects of new literacies are revealed (or rejected) through their histories of use, cultural influences, and social interactions.

In this dissertation, I contribute to our disciplinary practice of composing studies and multimodal scholarship with an interdisciplinary expansion that examines student composing and learning when working with unfamiliar modalities. My object of study reflects a disconnect I recognized between success narratives featured in scholarship and actual experiences I witnessed in teaching, using this dissertation to turn our attention to students' messy material and cognitive negotiations prior to their production of a polished multimodal project. Specifically, my dissertation study examines the attitudes, experiences, and practices of first-year writing students enrolled in a composition II course at a private, liberal arts institution in the South who were tasked with revising their writing as digital sound. During the scope of the study, these students repurposed a previously drafted piece of their writing from Composition II into (and through) sound

editing software to complete an audio revision project. My study examines the practices of seven students using various materials, their evolving attitudes about those materials, and the impact of their composing process on learning and interpersonal development. In this research, I seek to articulate perceptions of modal affordances and multimodal processes from students' perspectives to anticipate multimodal pedagogys potential to impact student learning. While we have studies that examine student practice and performance, my study is unique in its attending to students' perceptions through incorporating and foregrounding metacognitive discourse as a kind of semiosis, signifying shifts in students' perceptual and cognitive understanding of material resources. Using findings from my research, I will develop here a series of concepts drawn from student metacognitive discourse to analyze relationships among composing practices, materials, and learning.

In this chapter, I will draw together terms from scholarship in social semiotics, writing, language, literacy, and learning in order to establish a conceptual vocabulary for defining composing as a complex act in semiosis, specifically, providing terms that frame different objects from my study. This chapter will also take up the theories that inform these terms, anticipating their influence on subsequent chapters where I will analyze these concepts in light of my findings. Finally, I will use this chapter to respond to and extend empirical research studies that already address issues of multimodality, pedagogy, semiotics, and remediation (although sometimes framed in different terms). Bringing these theories and empirical studies together, I conclude this chapter by connecting my methodology with my research agenda, which is grounded in data gathered in situated

student perceptions and experiences. In doing so, I adopt an open, qualitative approach for study by choosing grounded theory as a methodology for my research practice, outlining its potential to capture undertheorized phenomena from previous scholarship, and expanding established concepts with a critical examination of rich, student data.

### **Composing as a Complex Act in Semiosis**

Composing itself is a complex act of semiosis, a process of understanding and utilizing a variety of signs in communication, whereby students must negotiate a variety of material, cultural, and social resources. Academic writing, for example, requires that students understand various material signs for digital composing (e.g. words, word processing icons, keyboard functions) that they can use in immediate social contexts while drawing from their histories and larger cultural understandings about what signs students should reproduce to produce “academic writing.” Scholars have examined how students communicate their understanding of a variety of cultural and social signs by studying student behaviors and determining various material signs that students use in literacy performances (e.g. adoption of scholarly discourse, imitation of classic structures in argument, carrying books and journals). This example is certainly an oversimplification of written composition as semiosis, addressing only a hint of the range of signs and sign potential implicated in written composition; however, I use it only as a rudimentary example. I will explore this analogy further throughout this chapter by extending it to a wider range of potential sign systems in which composing in any mode is a complex act in semiosis.

Reframing composing practices as semiosis positions each potential means of composing (e.g. word, image, video, sound) within systems of signs whose significance are drawn from histories of use, immediate cultural contexts, and social interactions. In order to compose with digital sound, for example, students need to understand signs associated with this medium (e.g. words associated with sound editing, playback icons in audio software, layered tracks in a software interface). Each means of expression—which I temporarily frame as mode—carries with it a unique and shifting system of *signs*. These signs are representations that refer to something else with meanings that are not static. Signs are “made” in instances when individuals cognitively associate a signifier, a material thing that represents something else, with signified, concepts to which the signifier refers. Signs do not have intrinsic meanings but gain significance in a process of contextualized recognition and use. For example, students enrolled in a composition class that requires they create a multimodal project may associate the word “multimodal” with the kinds of texts their teacher presents as models (e.g. digital narratives in Audacity, twitter feeds in Storify, literacy timelines in Prezis). In doing so, they draw from their experiences to create analogies whereby a sign may now classify a related body of objects or ideas; in this example, “multimodality” is like the kinds of multimodal texts presented by a teacher. Further, students composing multimodal texts draw from their knowledge of signs within modal systems to create meaning with perceivable semiotic resources. These semiotic resources, or means for making meaning, are situated in interactions that are material, social, and cultural (Kress 8), a critical assumption in my research design. In this dissertation, I account for students’ recognition and understanding

of various semiotic resources when influenced by their situatedness. For example, in a composing task such as creating a digital audio narrative, students' use of various resources (e.g. software, peers, sound files) may be influenced by their histories using audio editing software or listening to stories in audio, cultural values of audio narratives in writing courses, and their social interactions with their peers and professor.

When framing assignments as multimodal, we often present a mode's semiotic resources and sign potential as fixed, but modes do not have static, objective affordances. While certain modes do benefit from semiotic resources that make some ways of communicating more affordable (e.g. writing is spatially organized, digital sound is temporally delivered), individuals perceive unique affordances when encountering and recognizing modes as a means for sign making. Mode as a term is too often used to reference isolated media features, and in those instances, is an inadequate term to capture the complex semiotic nature of composing with non-dominant means. Consider, for example, blogs as a mode of expression which use a wide range of semiotic resources and modalities (e.g. image, sound, hyperlinks, navigation menus) that are shaped differently depending on corporate or individual authorship with content aimed at news reporting, personal archive, business networking, or entertainment. Characterizing such a range of texts under an umbrella term such as "blog" provides little information about their complex situatedness and significance. At this time, I am framing my use of the term mode using Gunther Kress's social semiotics definition as "the product jointly of the potentials inherent in the material and of a culture's selection from the bundle of aspects of those potentials and the shaping over time by (members of) a society of the features

selected” (80-81). According to this definition, materials have inherent features, but their unique potentials are perceived as a result of interactions within cultural activity, often in response to social needs or interests. Kress’s concept of mode emphasizes materiality while accounting for semiotic theories of sign making, providing a more complex framework for considering processes in multimodal composition. If mode is situated, then perceptions of modal affordances are constantly altered when they are used, reshaping modal “reach” in terms of what society perceives as the value of a modal semiotic resource. Reflecting Kress’s concept, this dissertation attends methodologically to relationships between student perceptions of a mode’s semiotic resources and their affordances in researching the semiotic reach of modes.

By attending to semiotic resources, I account for a wider range of contextualized materials, modes, and bodies as they interact in student composing practices. This dissertation provides a scholarly expansion that attends to aspects of composing processes, such as materiality, that are growing more prevalent in recent scholarship. This is important because studies of literacy should not be separated from studies of materiality. Materials employed in composition impact language, shaping conditions of their production and consumption, by capturing language in “mass or matter and occupying physical space” (Haas 4). Writing has a materiality in which language is transformed into a series of alphabetic symbols, handwritten or typographic. Christina Haas argues, “through writing, the physical, time-and-space world of tools and artifacts is joined to the symbolic world of language” (3). Her emphasis on language as material draws attention to ways semiotic resources shape potential meanings in written



composition. Haas's book *Writing Technology* specifically questions technology's impact on writing (3), a question she claims has been historically ignored in mainstream scholarship. Largely, writing's materiality has been forgotten in composition pedagogy and scholarship emphasizing instead rhetorical canons of invention, arrangement, and style. Ben McCorkle argues this treatment is a failure to theorize shifts in delivery, articulating how the classical canon of delivery has had a "volatile status" in different cultural moments, ranging from "esteemed" to "denigrated" and "altogether ignored" (29). McCorkle warns against our ignoring materiality and especially among rhetoricians, who function as gatekeepers, fostering adoption of new technologies (McCorkle 28). While there is nothing wrong with promoting new technologies for use, both McCorkle and Haas argue there is error in our failing to recognize ways semiotic resources materially shape discourse. Fortunately, interdisciplinary scholarship (new media studies, composition, communication, technology studies) in the last forty years has provided technological discourse that is shaping our perceptions of materiality, drawing us nearer to recognizing these material features. My study extends Haas's technology question to other resources for making meaning by asking, "What is the nature of semiotic resources, and what is their impact on composing practices?"

My dissertation responds to a current trend whereby teachers are introducing a variety of new technologies into composition classes with materialities new to composition curricula, including digital sound technologies. Many composition teachers and scholars are advocating for developing students' sonic literacy using technologies for composing podcasts, audio narratives, remixes, and soundtracks (Whitney; Comstock and

Hocks; Halbritter; Hawisher, Selfe, Moraski, and Pearson; Selfe). Orality, as a means of expression, is not new to composition whose disciplinary roots arguably begin with rhetoric's emphasis on speech. Our current practices incorporating digital sound into first-year composition, however, include dramatic shifts in sound materiality when compared to practices in our disciplinary roots. Digital sound may seem less material when compared with a conventional pen and paper sense of writing's materiality, yet oral composition introduces a variety of material tools into composing practices. Traditional contexts for live speech (e.g. conversations, lecture halls) take place in material settings with material tools, but often do not result in material artifacts unless the speech is archived with a recording device (Haas 4). Materially, new media technologies shift the nature of speech by transforming embodied voices into digital sound bites that often exist in elusive, online spaces. Gadgets, gestures, and spaces employed in a digital audio composing processes differ starkly from those of traditional notions of speech whose materialities are situated in physical rooms with perceivable, present audiences. Students record their voices using mobile devices, computers, microphones, and headphones; use a mouse and screen to edit sound into layered tracks of imported sounds and music; and publish remixed sound files within online networked communities for others to interact with on their smart phones, mp3 players, or computers. In recognition of these differences, my study examines these new materialities when situated in new contexts and relationships where tools and signs used in mediation are defined by students' perceptions and practices.

Individuals shape a material's use in response to their perceptions of their modal affordances, captured in the intersections between an object's intrinsic properties and a culture's understanding of its properties. We become sign-makers in our attributing significance and meaning to a "newly-made sign" in contextualized usage and understanding of signs (Kress & van Leeuwen 8). In this way, a material's semiotic potential is initially grounded in a user's sensory perception of its usefulness as a semiotic resource. James Gibson's concepts of perception and affordance, originating in ecological psychology, provide a way of framing these initial interactions between composers, signs, and situated environments. Gibson theorized that individuals could take up a semiotic resource's potential uses, or affordances, as a result of their sensory perception of materials within situated environments. His initial concept of affordance and perception focused on objective features or "physical properties" that afforded a user the ability to perform certain tasks (79). Even with an emphasis on objectivity, Gibson recognizes that properties alone do not determine an object's affordances because a person must perceive those potentialities in order to recognize and use its materials. Recent sociocultural expansions of Gibson's concepts have examined how perceptions of affordances are further mediated through individuals and their contexts (Sanders) and are "actively maintained" through sociocultural processes (Bloomfield, Lathan, and Vurdubakis 418).

Framed through these expansions, social semiologists would argue that students composing within multiple modes are constantly engaging in a process of understanding and making signs with meanings located in unique intersections between larger sign

systems that are material, historical, cultural, and social. Some resources have elaborate sign systems of use that students are culturally oriented to recognize (e.g. academic writing in school environments), and they are culturally attuned to perceive and respond to those signs. Students' perceptions are further influenced by a resource's broader history of cultural use or the composer's history of social practices that make some signs more familiar and, thereby, easier to perceive and shape than others. In contrast, when asked to compose within unfamiliar sign systems, students struggle to perceive the nature of those resources as well as to understand how they would shape them in composing practices. As scholars, we have a unique opportunity to examine student perceptions of signs and their meanings when they engage in tasks where different sign systems are used in completing one task. I address this kind of semiotic negotiating in this dissertation when I examine how students negotiate between sign systems of formal academic writing and digital sound.

### **Remediation as Composing and Learning Practice**

Students shape different semiotic resources when completing multimodal projects and engaging in composing practices. When theorizing about these student processes, scholars' use of the term multimodality may distract from the complex nature of student composing and learning processes. Multimodality is a term often used to focus attention on objects that features more than one means for expression in its final product, such as a public service announcement that incorporates both video images and words to make its argument. In this use, scholars are framing multimodality as more of a product outcome than a composing process. This notion of multimodality fails to account for the

complexity of remediation processes. In contrast, recent scholars have provided a more productive concept to frame this process, describing how composers engage in composing practices by naturally remediating different media or shifting between modes.

One group of scholars has refined Jay Bolter and Richard Grusin's concept of remediation and conceptualized composing processes of refashioning old media into new media (19) while taking into account how resources gain significance in context. Paul Prior, Jody Shipka, Julie Hengst, and Kevin Roozen reframe multimodality from a semiotics perspective through their concept of semiotic remediation, and, in doing so, account for more complex, situated examinations of literate practices. In their study, "I'll be the Sun: From Reported Speech to Semiotic Remediation Practices," Prior, Hengst, Roozen, and Shipka examine three case studies (e.g. a story of Magic Cindy, a dance performance, and an improv comedy group) to understand ways that individuals use multiple sign systems in communication and composition. Their findings suggest that individuals draw from complex sign systems that are situated in specific cultural contexts with various semiotic resources such as histories, artifacts, practices, individuals, and environments. In response, Prior et al. reframe multimodality as semiotic remediation practices in a discursive move to "signal" their "interest in signs across modes, media, channels" ("I'll be the sun" 740). Expanding multimodality in their concept of semiotic remediation affords scholars a way of studying more complex "chains of discourse," "in their use," and as reflecting consciousness (Prior, "From Speech Genres" 28). Semiotic remediation practices is a concept that builds on theories of sign significance in contexts of use, accounts for signs employed in non-dominant forms of discourse, and attends to

composing processes when repurposing media. In doing so, these scholars bring together interdisciplinary theories and practices of semiotics, new media, and composition studies, productively framing current trends in composition pedagogy for the kinds of activity I observed.

These recent trends in emphasizing multimodality and new media composition have bred pedagogies that are intentional about remediating texts or genres common to the first-year writing course into non-dominant modes. Scholars of multimodal pedagogy, such as Cynthia Selfe, examine instances of remediation through empirical studies of students repurposing texts, such as written literacy narratives remediated into digital sound narratives. In her article, “The Movement of Air, the Breath of Meaning: Aurality and Multimodal Composing,” Selfe presents a both/and multimodal approach to composition, advocating ways that aurality—among other modes—should be part of students’ range of modal opportunities employed for rhetorical and material purposes (645). Her historical account of writing and aurality in composition studies illustrates how composition’s field history has privileged written discourse while ignoring its roots in rhetorical aurality. Rejecting this dichotomy, Selfe argues that new media has rebirthed an interest in aurality by providing scholars with new materials and situations in which digital resources may impact composing practices. While advocating for expanding composing practices to include “exciting hybrid, multimodal texts,” she demonstrates through an examination of several participant digital narratives potentially rich semiotic systems employed in “a changing world” (642). Selfe’s case studies of students simultaneously employing a range of semiotic resources reveal that written-aural

remediation as a practice affords students increased capabilities for critical thinking and self-expression. I reference Selfe's study to emphasize that studies of composing practices can also be studies of learning, a critical component of my research, while illustrating a pedagogical model for remediation.

One form of remediation that has garnered much scholarship in writing studies is in transformations between speech and writing, especially as speech has been theorized as a means of improving writing. This disciplinary attention to speech and writing has fostered a variety of pedagogical practices that incorporate activities with speech in invention or revision stages to polish a written product. These pedagogical practices include our history of incorporating speech and writing activities through writing groups, talk aloud protocols, writing center tutor practices, and logography (i.e. pre-drafted speeches to be delivered orally). These practices incorporate a variety of aural-written remediations, which ask students to engage in both oral and written tasks to achieve a final product. Studies of these pedagogical practices have historically focused on distinctions between "modes" of speech and writing, considering what one mode might afford another. In these remediation practices, the focus is often on transitioning from one resource to another in a lateral motion of transfer, more often using speech as an invention method for writing.

Our emphasis on one-directional remediation emerged alongside our understanding of shifts from orality to literacy in historic accounts and theories. This was likely influenced by the work of many scholars who positioned orality and literacy in bifurcated ways by constructing "great leap" histories of shifts from orality to writing without

accounting for relationships between them, especially during periods of change (McCorkle 21). These histories and distinctions serve as terministic screens that inhibit our ability to recognize overlaps among writing and speech (Palmeri 15). As a result, theories of orality and literacy often focus on distinctions between modes rather than ways that “alphabetic and aural communication are deeply intertwined” (Palmeri 52). Walter Ong’s well-cited observations in *Orality and Literacy*, for example, present a seemingly bifurcated view of orality and literacy which even today continues to influence theories on speech and writing. Ong describes shifts from primary orality to literate cultures, drawing attention to ways that society perceives speech and writing and their potential for literate thought. Ong’s descriptions of orality and literacy create a before-after paradigm where a world dominated by sight-dominant literacies is unable to access the features of by-gone primary orality (i.e. language as additive, participatory, antagonistic, homeostatic, and situational) (33-57). In his approach, Ong attempts to conceptually remediate primary orality through accessible, written materials in his literate world of 1982. Ong does admit his limitations in describing “a primary phenomenon by starting with a subsequent secondary phenomenon and paring away the differences” (13) and further recognizes how his semiotic resources, such as word-signs, impact his perception of these shifts in cultural consciousness between primary orality and literacy. In doing so, he incriminates his approach because his entire treatise of distinctions between orality and literacy begins from a literate-bound framework in order to pare away features of a pre-literate, oral culture.



I do not wish to dismiss Ong's contribution to scholarship characterizing orality and literacy and their impact on consciousness. His work is valuable in his attention to speech and writing as signs that draw from, and contribute to, larger historical, cultural and social implications. Further, he is utilizing contextually appropriate and available resources (e.g. written discourse) to frame primary orality albeit it limited by "the structures of literacy consciousness" (Welch 57). Instead, I wish to point out that Ong's approach seeming to create a before-after paradigm actually positions orality and literacy in terms of remediation. In practice, Ong interconnects semiotic resources when he remediates our perceptions of speech features by repurposing them through the materials of writing. Ong writes that, "writing can never dispense with orality" (8). In response, I would argue that today's digital orality can never dispense with writing. Walter Ong's work draws writing and speaking conceptually and materially together, leaving room for an examination of relationships of remediated material technologies of secondary orality. Ong argues that a literate orality, or secondary orality, cannot dispense with writing because sound is dependent on inscription technologies (e.g. telephone, radio, television) for existence (11). This is certainly true if we consider ways that sound is inscribed in the digital technologies addressed in this study. The nature of recorded voices today shifts bifurcated disciplinary distinctions between writing and speech because digital sound records a live, embodied voice and then redistributes it as a disembodied, aural script. In these remediations of written-aurality, creating a confluence of writing and sound practices and signs, we find it harder to distinguish between modes. Instead, this dissertation draws our scholarly attention to consider how they work together, accounting

for a range of remediated written and aural materials that influence students composing digital sound projects.

Recent empirical studies, such as those of Kevin Leander and Paul Prior's, highlight this interconnectedness between writing and orality. In "Speaking and Writing: How Talk and Text Interact in Situated Practices," Leander and Prior examine different spoken-written artifacts and practices used in composition pedagogy. In this work, they examine a variety of written-aural instances (e.g. seminar discussions, a PhD prospectus development, and a high school presentation) to discover how talk and text are "jumbled together" (201). Leander and Prior study these instances with a variety of methods common to composing studies (e.g. conversational analysis, field notes, audio and video taping, and transcription) and conclude that triangulating methods and types of modal artifacts provides a rich picture semiotic resources employed in relationships between speech and writing. In their approach, Leander and Prior highlight the "growing recognition that orality and literacy are more complex and more intertwined than initial theories imagined them to be" (202). They conclude advocating for "a rich record of interaction" in order to understand relationships between talk and text in student composing as well as research methods that can provide "exciting new insights into literate practices and their complex roles in our lives" (233). Their discoveries emphasize that speech and writing interact in a multi-directional process rather than a linear transfer. Finally, they invite scholars to frame studies of remediated composing practices with methodologies that examine these complex processes.

In this dissertation, I will use the term semiotic remediation to emphasize complex processes of “writing-as-activity” rather than simply “objects-in-the-environment” in the way that multimodal artifacts are often characterized (Prior and Hengst 22). Prior et al.’s use of the term remediation in *Exploring Semiotic Remediation* accounts for more than a shift in mediums during composing because they emphasize repurposing, an “emphasis on social and semiotic process, on ever-emergent social relations, and on the ways semiotic forms can serve as resources for social agents” (Irvine 236). Prior et al.’s expanding the field of study from object to activity allows scholars to attend to discursive practices as represented in different semiotic resources. In addition, their framing remediation practices as composing studies recognizes the significance of students’ perceptions as they reflect and come to understand situated meanings of various semiotic resources, a critical component of my research agenda.

Students engaging in remediation practices must negotiate semiotic resources with meanings that are constantly in flux. This is evident in their shifting processes when engaging with these resources, which impact their perception of a resource’s significance. In recognizing these negotiations, we witness moments of learning. Often when teachers have promoted remediation practices, they describe modalities as having fixed features, failing to acknowledge how students recognize and use features in situated practices that are influenced historically, culturally, and socially. When students perceive these resources, they recognize properties and their affordances as they are sensed within their environments and interactions. Students are often required to use resources whose significance varies when they encountered those materials in other contexts outside of

composition courses. I have observed that modes such as digital sound are perceived differently in out-of-school, social environments than when they are encountered in an academic setting. Further, students who are required to engage in remediation are forced to transition between modalities and negotiate various signs to complete their assignment which can create a problem if they encounter unfamiliar materials/resources. While this may seem like a simple opportunity for transfer, students' histories may provide no framework for recognizing or using semiotic resources whose signs gain meaning in their situatedness. My research examines these remediations and transitions between modalities for semiotic evidence of cognitive and interpersonal learning.

Studies need to look more at student remediation practices as a site of learning, specifically in social interactions. While composition scholars have drawn from Vygotsky's sociocultural theory of development, we should extend our use of his theory to examine social interactions that shape students' learning when composing within new sign-systems. Vygotsky's psychological theory outlines how children develop intrapersonally by first engaging in interpersonal processes that take place first on the social level before learning is internalized (57). This learning process involves the perception and use of tools (i.e. signs) that mediate activities taking place in social interactions. Vygotsky's studies revealed that children engaged in complex developmental processes of interpersonal activity prior to understanding a tool's significance and affordances. This understanding, or internalizing of sign operations, drew from memory and present social situations. While students in higher education courses are certainly not children, their experiences prior to composition classes have established their perceptions

of signs employed in literate activities in similar ways. Students are socialized, beginning as toddlers, to recognize a variety of semiotic resources such as alphabetic signs that constitute acts of literacy (Harste, Woodward, and Burke). In response, literacy becomes culturally and historically understood as a practice that occurs with writing tools (e.g. pencils, pens, paper, word processing software, typewriters, computers) with a problematic yet present assumption that also privileges academic writing as a primary means to analytical thinking (Welch). Teachers introducing new tools or signs present students with a developmental task in which their understandings of literate signs are challenged by unfamiliar tools and forms of mediation. In response, students engage in a “long series of developmental events” by which they interact with tools in socially rooted and historically influenced activities (57). For students in a composition class, this happens when they encounter new tools, such as digital sound editing software. Through this process, students negotiate unfamiliar signs through social interactions that help them uncover cultural perceptions (e.g. teacher assignments reveal how resources are valued) as well as their own histories with that sign (e.g. class discussions that trigger memories of working with modes). Through these interactions, students internalize and learn sign operations or meanings.

In this dissertation, I will argue that we should examine relationships between perception, tools and signs, and learning in response to pedagogical calls to introduce multimodality into composition classes. Some scholars have started this work, adapting Vygotsky’s attention to psychological processes and tool mediation into studies of multimodal composing processes. In their study, Jenn Fishman, Andrea Lunsford, Beth

McGregor and Mark Otuteye examine how literacy is perceived, performed, and embedded in complex practices of “highly mediated expression” that reach beyond chirographic or typographic acts of writing (Fishman et al. 245). Specifically, two narratives in their study reveal ways that remediated composing, by combining dramatic performance with writing, affords students a ways to learn, using an interpersonal means of expression to develop an intrapersonal understanding of writing as performance. Recently, Katie Ahern’s study “Tuning the Sonic Playing Field” specifically addresses learning in aural composing practices, revealing how students combined listening, writing, and composing to develop sonic dimensions of literacy. In her study, students completed a series of scaffolded, developed assignments to explore what sound, as a mode, could afford them as listeners. Ahern’s results revealed that students learned more through social interaction and experiences when working with sound and writing than through an instructor’s descriptive, lecture methods. Ahern proposes “tuning” as a metaphor for ways students “play together” to encounter live, embodied sound as a sign. Her emphasis on tuning as an act that happens together, reflects her argument that it involves a “negotiation of bodies, instruments, listeners, and expectations or conventions” (82). In these studies, both Fishman et. al and Ahern reveal situations where students engage with more than one modality, and, as a result of their negotiating various situated influences, they discover or learn.

Scholars studying remediation pedagogy extend composition’s history of studying composing practices while accounting for a wider range of potential materials for meaning making. In these studies, student process narratives are situated in contexts

through researchers's descriptions of elaborate systems of signs that characterize how individuals compose when repurposing materials. Scholarly work examining interpersonal interactions further builds on our field's use of sociocultural theories of learning that impact student composing processes. I reference this work to suggest that we expand our field of resources to account for signs beyond writing in examining how students come to understand and use a range of semiotic resources and ultimately how these experiences impact and reveal student learning. In my examination of students' perceptions of signs, I will argue that metacognition, spoken and written, is an artifact that reveals and shapes learning and interpersonal development.

### **Metacognition in Shaping Semiotic Resources**

It is not enough to expand studies of composing processes to examine remediation practices. We must also invite students to engage in metacognition to understand how their discourse shapes sign meaning. While Christina Haas and others raise questions about materiality and writing within scholarly publications (Dunn, McCorkle, Palmeri, Shipka), those outside of these conversations, including teachers and students of writing, are often oblivious to their presence and influence. As a result, common technologies used in composition classes (e.g. notebook journals, word processing software) are often ignored in academic writing environments, where students use them without recognizing the materials. In *Understanding Media*, Marshall McLuhan's frames technology as an "extension of man," arguing that we often fail to recognize the presence or impact of technological materials we use (McLuhan 19). McLuhan examines relationships between man and technological extensions (e.g. gadgets, tools, mediums) by creating an analogy

with the Greek myth of Narcissus, the man who falls in love with his reflection in a pool of water. He argued that technologies foster a state of “narcosis, or numbness” whereby man “had adapted to his extension of himself and had become a closed system” (63). This closed system mimics the kind of uncritical adoption of technology in teaching use that is often critiqued in new media and composition scholarship. Often our scholarship calls for teachers to attend to technologies and their impact on pedagogical practices, a call I respond to in this dissertation study. In my approach, I am suggesting that we incorporate student metacognitive discourse into pedagogy and research methods, inviting students to consciously shape semiotic resources they use in remediation practices.

In order to examine how students perceive semiotic resources, we can draw from our discipline’s linguistic attention to student discourse in their characterizations of materials and processes involved in composing. Many composition teachers foreground metacognition with assignments that ask students to explain their processes through cover letters, reflections, and process presentations. In the case of remediation practices, this reflective practice should be extended to account for students’ perception of a range of semiotic resources used by attending to materiality. Jody Shipka, a proponent of multimodal pedagogy, advocates for compositions “made whole” with a unique attention to ways students conceptualize relationships between their processes and materials used. In her book, she presents various case studies of students who exhibit highly distributed processes involved in creating their texts when engaging in multimodal composition (*Toward a Composition* 15). Shipka’s adoption of a semiotic approach to multimodality further informs her pedagogy, which is built on assumptions that signs are situated within



distributed, social, material student practices. I reference her approach to highlight her requirement that students complete a “statement of goals and choices” to reflect their perceptions of language and technologies that mediate their compositions (*Toward a Composition* 113). Shipka’s application and examination of such a framework reveals “an activity-based multimodal framework” that pedagogically develops student awareness of the impact of mediation (linguistic and technological) on communication practices (*Toward a Composition* 15). Such student awareness can also provide rich data for researchers seeking to understand student perceptions of their relationships with materials used in remediation.

Incorporating metacognition into our pedagogy provides us with a means of understanding student remediation processes and learning, specifically as they define resources used during composing. Jody Shipka’s research reveals that student texts have “a history and are connected to, and *informed by* other processes and systems of activity” (“On the Many Forms” 54). Student decisions in composing a multimodal piece are influenced by larger systems of social and cultural activity as well as their own histories of writing and performing in similar ways. Her study of a multi-part coffeehouse presentation in one of her classes attends to more than textual artifacts and looks at more of a “nuanced understanding” of goals, strategies and resources “human and nonhuman, the group thought to take up” (“On the Many Forms” 72). Shipka’s work calls for our attention to student perception of human and nonhuman materials as they are resources in composing processes, providing a means for students to recognize and define materials used. Through written or verbal metacognition, students capture their perceptions of these

resources, and their discourse provides more than a descriptive list of tools. In these instances, student metacognition functions as a sign because language becomes materialized to signify their evolving understandings of various materials. In arguing that student understanding is evolving, I mean that metacognition is a sign in that it shifts in response to situated contexts when students' understandings are historically, socially, and culturally influenced.

In my study, I examine students' perceptions of resources employed in multimodal compositions as they are shaped by their own situated understandings. These student perceptions characterize how they learn through relationships and interactions that are material (e.g. speaking into a microphone, hearing their voice), cultural (e.g. using non-dominant modes in composition), and social (e.g. sharing with an audience). Scholars who examine student characterizations relocate sign making within material worlds, where bodies interact with matter (e.g. technologies, modes, devices, bodies) and students engage in semiosis. In characterizing semiotic resources, students are invited to consider their positionality with materials they use, and, in doing so, contextualize their relationships with semiotic resources.

This student language functions as a complex sign that is chronotopic through utterances that are situated in their own histories of practice, cultural worlds, and social interactions. As students interact with the resources, sign significance is fluid when students recognize signs in situated environments whose agents highlight or confound features and potentialities for meaning. For example, students perceive the word writing, a linguistic sign, with varied connotations depending on context in a formal, academic

setting, a social media network, or a creative writing class. Likewise, other sign meanings shift in students' interactions and experiences and are reflected in student metacognition in the form of signs that are both concrete and abstract. Students describing their composing process or characterizing human or nonhuman resources capture their perceptions using words as signs. These signs function as utterances, capturing students' perceptions in a specific instance, revealing how resources gain meaning and capturing sign significance in a dialogic relationship between immediate contexts and histories of use.

This view of signs as utterances reflects composition's history of drawing from sociocultural theories of discourse, namely the work those in the Bakhtinian circle. Their work characterizes the "temporalities of semiosis" because "utterances do not achieve their sense and function in a moment" but in "the histories that lead to an utterance, the unfolding events of its use, the imagined projections of its future and ultimately the way it is in fact understood, taken up, replayed and reused in near and perhaps more distant futures" (Prior, "From Speech Genres" 21). In the case of first-year composition, students bring their histories and attitudes about academic performances to a writing class, influencing language they choose to characterize signs they encounter. Introducing non-dominant forms of composing in the form of multimodal composing can complicate their ability to understand, take up, and replay multimodal signs when situated in laminations of their histories, present contexts, and distant futures. For example, students working with digital sound may first characterize its resources based on their histories of listening to podcasts, but their ideas regarding its features will shift through a month-long study of

sound in a composition class, finally taking into account both immediate and previous contexts of use. Student metacognitive discourse, in the form of spoken or written characterizations, reflects these laminations of semiotic significance, taking into account histories, practices, and attitudes about that resource. Their characterizations function as utterances, represented in language that is “anonymous and social,” influenced by social interactions or cultural meanings associated with digital sound, finalizing a sign’s central meanings in a unit of discourse (Bakhtin 272). Voloshinov, a member of the Bakhtian circle, writes, “the center of gravity lies not in the identity of the form but in that new and concrete meaning it acquires in the particular context” (67-68). Student metacognition, through characterizations about process and perceptions of semiotic resources, are rich signs that are valuable to scholars seeking to understand moments of student learning when encountering unfamiliar signs in situated contexts.

In my study, I reframe student metacognition as an aspect of semiosis to suggest that significance among semiotic resources and composers is multidirectional. Semiotic resources are represented in signs that rely on student understanding and use of those signs for meaning. Those meanings, fluid and chronotopic, impact student perceptions of a resource’s affordances which they capture in metacognitive discourse. When students characterize a resource or features of their composing process, they in turn shape their experiences within the dimensions of a sign’s potential for meaning. Students using the term “formulaic” to characterize academic writing, for example, reflect their histories with standardized writing texts as well as shape their experiences when deciding to write a essay in a more structured style (e.g. using five paragraphs) to fulfill a composition

assignment. Kress calls this understanding a double process of sign making which he defines as, “the difference between the outwardly directed making of the sign...and my inwardly directed making of a new sign in my engagement with that signifier” (161). In this double process of sign making, student metacognition reveals more than just how signs are made, or how others may define its significance. Students internalize outward signs, or prompts, and then recognize, select, and frame features that inform how they characterize those resources. Kress calls this process orchestration or “assembling/organizing/designing a plurality of signs in different modes into a particular configuration to form a coherent arrangement” or ensembles (162). In this double process of sign making, student metacognitive discourse serves as material evidence of Vygotsky’s learning process and highlights ways that learners reshape signs in metacognition.

A current trend among a group of new media and composition scholars is to attend to sonic materials as a semiotic means for intrapersonal development. Scholars promoting sonic pedagogies examine student learning with digital sound resources through their studies of social interaction and interpersonal development (Comstock and Hocks; Hawisher et. al; Selfe; Whitney). Michelle Comstock and Mary Hocks’s study “Voice in the Cultural Soundscape: Sonic Literacy in Composition Studies” examines the impact of using digital technology (e.g. audio recording software) to mediate voice and develop self-awareness. Comstock and Hocks account for student perceptions in their method of asking students to engage in “analytical thinking” in sonic composing to draw their attention to ways sound is made material in their recorded voices. To foster student orchestration of signs, their assignment design provides a peer review opportunity where

students examine instances when their voices resonate, or connect, with themselves and others. Students in this study also provided metacognitive discourse in post-process reflections which Comstock and Hocks note reflected an awareness of ways pacing and tone impact their compositions. Among scholars promoting sonic pedagogy, Comstock and Hocks's approach is notable for their incorporation of student reflections into remediation practices with an attention to signs (i.e. soundscapes, voiceovers) that function as both cultural artifacts and social communication. In this exercise, Comstock and Hocks discovered that students developed a heightened attentiveness to their recorded voices, controlled delivery during revision processes, and made adjustments so that their projects they resonate with self, audience, and subject. These findings illustrate Kress's double process of sign-making when students recognized external signs in materials involved in audio recording (e.g. their voices), and, in response, selected and assembled from their resources to revise their projects.

In my study, I foreground metacognition as type of semiosis because it captures student orchestration processes when engaging in semiotic practices by asking students to reflect on their design of assemblages. Students engaged in metacognitive discourse shape their experiences and, in response, their interpersonal development as they orchestrate signs in remediated composing. Theoretically, Voloshinov positions expression and experience in a symbiotic relationship arguing that, "expression is what first gives experience its form and specificity of direction" (85). Pedagogically, student reflections on their composing processes and/or resources form experiences and specifically direct their attention to materials, including themselves. Students recognize

themselves as signs in a material world (i.e. bodies involved in multimodal ensembles) when engaged in remediation practices with a heightened awareness of semiotic resources that impact their own development. Through metacognitive discourse, students become sign-makers when they define features of signs employed in remediation practices, including reflections of how experiences shape their perceptions of themselves as composers. When learning, Voloshinov argues, students accommodate their inner worlds to these outer dimensions, thereby constituting a kind of interpersonal learning and development. Kress also draws connections between sign-making, learning, and personal development when he defines learning as

the result of a semiotic/conceptual/meaning-making engagement with an aspect of the world; as a result the learner's semiotic/conceptual resources for making meaning and, therefore, for acting in the world, are changed—they are augmented. This augmentation of an individual's capacity is at the same time a change in *identity* of the person who now has different capacities for acting—in whatever way—through *knowledge-as-tool* to deal with problems in that individual's life world. (174)

Kress's notion of learning expands metacognition's potential for sign-making to include impact on student composers. His framework positions students' sign-making and learning of semiotic resources in a dialogic relationship with themselves, influencing their identity and potential for future learning and composing. Drawing from Voloshinov and Kress, my study attends to metacognition as a potential resource in understanding how students themselves are signs involved in remediated assemblages.

## Research Statement

In this dissertation, I examine student composing practices when they are remediating texts with unfamiliar materialities to uncover how they understand and shape a range of semiotic resources that are historically, culturally, and socially significant to their tasks. During the scope of this study, students employ a range of semiotic resources (e.g. bodies, technologies, sign systems, tools) when negotiating an unfamiliar task of remediating writing and digital sound. My motives for choosing this object of study included examining 1) how students work with novel materials, 2) how students' perceptions of those materials are influenced by their pasts, their culture, and their social interactions, and 3) how these practices and perceptions impact student learning. In pursuit of these motives, my research design draws from the conceptual vocabulary, theoretical frameworks, and referenced empirical studies established in this chapter, directing me to choose a qualitative approach in adopting a grounded theory methodology.

To account for students' impact on dynamic sign meanings in their use, characterizations, and understandings of semiotic resources (e.g. modal affordances), I required a methodology that was open to discovering potentially unrecognized phenomena through an empirical study. Popular theories of aurality and writing composed by scholars such as Kathleen Welch, Walter Ong, and the New London Group have been powerful conceptualizations; however, our field of composition requires more than philosophical work as evidenced in our disciplinary reliance on empirical studies. Further, existing "great man theories" about speech and writing are inadequate to frame



this study because, as Glaser and Strauss argue, these theories have “not provided enough theories to cover all the areas of social life,” namely that of digital sound remediation (10-11). Rather than simply validating existing theories in student work, I chose to use grounded theory to provide a rigorous, recursive, and reflexive approach to analyzing data, composing categories, and refine existing theories about speech and writing in light of remediated composing practices. In their study of talk and text, Leander and Prior agree that qualitative methodologies with limited scope and theoretical frameworks may fall short when trying to capture the complexity of situated practices in aural-written compositions (201). In response, my dissertation does more than simply verify existing theories of orality and literacy; instead, my study develops theory from specific students’ experiences, attitudes, and practices in remediated written-aurality uncovering the “assumptions on which participants construct their meanings and actions” (Charmaz, “Shifting the Grounds” 131).

Barney Glaser and Richard Strauss “discovered” grounded theory as a methodology that provided scholars ways to examine rich data to develop theory, rather than conducting research which simply aims to affirm previous theories. Grounded theory was their response to a 1970s scholarly culture when only sociologists were considered qualified enough to generate theory while other researchers were charged with simply verifying hypotheses (6-7). Instead, Glaser and Strauss challenged that researchers should develop substantive and formal theories that are grounded in data, captured in situated practices, and, as a result, avoid sweeping generalizations and grand theories. Their qualitative approach affords researchers a series of open methods through which they can

examine complex, situated data without potentially limiting parameters by adopting others' limited scope and theoretical frameworks. In the context of multimodal composing, grounded theory suits this study's social semiotic approach to understanding student perceptions and use of resources in remediated composing practices. Using grounded theory, I also maximize the scope of interesting phenomena analyzed in my empirical field (Kelle 212). For example, many theories about speaking and writing are based on disciplinary features of orality and literacy, and our methodologies direct us to attend to those artifacts in data collection and analysis methods. But such theoretical and methodological heuristics can hinder our ability to examine a range of semiotic resources employed in student composing practices that lie outside of those theories.

My study invited students to articulate boundaries for speech and writing based on their situated understandings, which shifted previously theorized material boundaries for these composing practices. In my methodological framework, sign significance is diverse and shifting when influenced by students' histories, immediate contexts of social interaction, and evoked cultural worlds (e.g. school, music, church). Specifically, I examine their perceptions and practices through a fine-grained analysis of students' discourse that characterizes their material practices while negotiating remediation and perceptions of their experiences as they reflect learning. In doing so, my dissertation addresses the following research questions:

- (1) How do students negotiate materials when asked to complete an unfamiliar composing task?

- (2) What do students' characterizations of experiences, attitudes, and practices reveal about how they understand semiotic resources associated with digital sound and writing?
- (3) What are student perceptions of relationships between technology, remediation and self?

## CHAPTER THREE

### METHODOLOGY

#### Overview

In my study, I examined student perceptions of relationships between writing, speech, and digital sound using a grounded theory methodology. My approach reflected second generation grounded theory, taking sociocultural influences into account. Charmaz noted that this contemporary version of classic grounded theory “assumes a relativist epistemology, sees knowledge as socially produced, acknowledges multiple standpoints of both the research participants and the grounded theorist, and takes a reflexive stance toward our actions, situations, and participants in the field setting--and our analytic constructions of them” (“Shifting the Grounds” 129). Grounded theory’s sociocultural methods afforded me, as a researcher, a means of analyzing semiotic significance when relative to socially produced attitudes and composing practices. I found these methods provided rigorous, recursive, and reflexive approaches to analyzing data, composing categories, and discovering a theory about remediated composing practices.

This chapter describes my grounded theory approach and research design. I outline my use of grounded theory methods, beginning with a pilot study, and describe subsequent modifications to my study. Focusing primarily on this modified study, I provide details regarding the context for my study, participants, data collection methods, analysis methods, my role as reflexive researcher, and limitations of my study.

### **Pilot Study**

In April of 2012, I conducted a pilot study, studying six student participants enrolled in a composition II class. This composition class was offered in a department that had recently seen a rise in teachers asking students to compose with digital sound (e.g. podcasts, audio essays, audio responses). Students in this particular class were revising a previously written assignment into an audio essay as their final project. I considered this audio revision assignment a unique opportunity to study how digital audio fits into a first-year writing class. My questions focused on how sound might enhance or challenge first-year writing goals. In my March 2012 IRB application, I wrote, “we still do not understand what happens when we compose with sound, how we perceive those aural texts, and what this medium of communication may afford us as rhetors, scholars, and teachers.” In my initial IRB application, I emphasized my study of digital sound in isolation. This was echoed by my research questions (1) How do students and faculty compose with digital sound? (2) What does composing with digital sound afford a rhetor? and (3) How do students and faculty perceive aural compositions?

I approached this pilot study as an opportunity to learn what unique affordances digital sound provided students in composition courses. In doing so, I was prepared to note how students incorporated music and sound effects, arranged and layered tracks, and delivered vocal techniques during the composing process, taking advantage of digital audio affordances. Instead of observing sound composition in isolation, I witnessed most students writing with keyboard or pencil during an audio editing workshop. Their oral recording process involved monotone readings before microphones with their eyes bound

to a printed page, ignoring Audacity's digital audio editing interface. In my field journal, I wrote, "They are rethinking and working through revision without the aid of digital sound, doing so using print literacy materials. How does this impact the oral composition?" On a different day, I wrote "More and more of this seems like a secondary orality that is present. Is this in the assignment design or part of their writing process, or are they thinking first in writing and translating later into sound?" Moments in my pilot study such as this lead me to modify my initial plan of examining sound in isolation.

In those moments, I recognized that my study of digital audio composing practices had failed to acknowledge how students were negotiating complex ways that speaking and writing were related when revising writing into digital sound. I also recognized that I was limited by bifurcated notions of literacy and orality. As a result, I had failed to account for the most interesting phenomenon I was witnessing, a complex relationship between speaking, writing, and digital mediation. This recognition led me to reframe my study as an examination of student perceptions of these relationships in semiotic remediation practices. Rather than describing practices exclusive to digital sound composition, my research questions and methods examined intersections among modes through participant perceptions of their significance. Specifically, I revised my research questions, expanded my data corpus, developed a tiered interview protocol, and refocused on student characterizations of how various modes were related throughout their revisions.

## Modifications

In response to issues I observed in my pilot study, I modified my research questions to account for a more complex approach to semiotic remediation. One of those issues, for example, included student histories with writing that were informing their attitudes about and approaches to novel forms of composing, such as digital audio composition. In response, my revised questions focused on students' practices, histories, and attitudes when working within various modes. These revised questions were

- (1) How do students negotiate materials when asked to complete an unfamiliar composing task?
- (2) What do students' characterizations of experiences, attitudes, and practices reveal about how they understand semiotic resources associated with digital sound and writing?
- (3) What are student perceptions of relationships between technology, remediation and self?

Reframing the study to look at written and aural modes in relation to one another meant also expanding my data collection, a realization I came to during my pilot study. In my pilot study data collection, I gathered field notes in class observations, interviewed six student participants, and examined samples of student audio revisions. Throughout that field journal, I reflected on ways to expand my data corpus when I wrote, "Can I see copies of original drafts?" and "Cover letter provides some rationale for student choices. Do I have the authority to use them? Check IRB." In my memos, I recognized that there were gaps in student composing processes that I was not seeing. This was obvious as I

observed few students were composing their audio revisions in class; instead, several announced their plans to “work on it outside of class.” Realizing that I was limited in observing audio composing practices, I built in to my latter study a method for students to capture outside-of-class composing processes. In short, my pilot study collection of stand-alone audio files, class observations, and one interview per participant was inadequate for a complex picture of remediation processes. So, I gathered a more comprehensive collection of artifacts in my modified study that was a more representative picture of processes related to semiotic remediation.

Following my pilot study, I also amended my protocol to account for more opportunities to understand student perceptions of semiotic remediation. In my pilot study, I only conducted one interview with participants. I learned from these interviews that students lost interest if our interview ran too long or if I asked too many questions. To cut down on interview time and to sustain interest, I asked students in my revised study to participate in two interviews. The first interview occurred at the beginning of their final unit in Composition II while the second took place during exam week, following student submissions of their final audio revision projects. I also expanded this interview to examine written artifacts (e.g. cover letter, initial drafts, annotations, final reflections) and ask for student process illustrations.

### **Research Context and Participants**

My study took place at Springhaven University, a private, liberal arts institution in the South with an enrollment of 4,300 students in its undergraduate and graduate programs. At Springhaven, I studied the attitudes, experiences, and composing practices



of a group of first-year writing students enrolled in an honors composition II course. This composition II course instructor, Professor Amelie, themed her course around the topic of sound, asking students to write about music, experiment with sound and silence, analyze mythological references to music, and record audio compositions. Early assignments in this course prompted students to develop an awareness of sound features while later assignments worked towards students composing with digital audio software. All of these assignments, including a sound experiment, asked students to engage in a mixture of oral and written practices to produce larger assignments. In their final assignment, students were asked to revise an earlier written composition into an audio revision project. Professor Amelie's final assignment provided freedom for student interpretation, limiting them to revising any earlier written piece (e.g. informal writing, drafted essays, annotated bibliographies) into a digital sound project. Students submitted a variety of artifacts to Professor Amelie with their digital sound projects including a written annotation of their original written draft, an mp3 file of their digital audio, a written cover letter, and a references page. These artifacts, coupled with others gathered in the study, provided a complex corpus of data to examine various histories, attitudes and practices involved in remediation.

Although these participants varied in many ways in their histories, practices, and attitudes, they did share some commonalities. All of these students received Advanced Placement (AP) college credit in order to place out of composition I and into a composition II course their first semester of college. In addition, these students all entered college with an honors program designation. Admission to Springhaven's Honors

Program required that these students already have a “score above 600 on all areas of the SAT; rank in the top 10% of their graduating class; and have a GPA of 3.8 or higher” (see appendix A). Springhaven’s Honors Program director was known to recommend to course instructors teaching honors classes to provide more class discussion and critical thinking. These features were already common to their composition pedagogy, though, and often resulted in honors classes at Springhaven resembling their non-honors counterparts in composition II. According to Professor Amelie, she designed her composition II honors course as she had in previous semesters when her courses were not designated honors courses. One distinction was in her class size as honors classes require a smaller enrollment cap, usually a maximum of fifteen students, compared with a cap of twenty-two students in non-honors designated composition classes. This section exceeded the honors cap by three students with a total of eighteen students.

Of the students enrolled in the class, I worked with eight participants, from October to December of 2012, including seven students and one professor (Anna, Beth, Kathryn, John, Megan, Mikala, Rena, and Professor Amelie). I chose students randomly from those who consented to participate. In October, I visited the class and provided a brief explanation of my research study by issuing each student in the class a “Student Letter and Consent Form” (see appendix B). These letters assured students of confidentiality upon their participation; I explained that I would change names tied to any data or artifacts used in research. Sixteen of eighteen students returned consent forms indicating their willingness to participate. Of those, I selected seven students to participate. My choice of seven students reflected my desire for a sample large enough to

account for various histories and approaches to written-aural texts while resisting too large a sample, narrowing from the sixteen volunteers to avoid sacrificing depth for breadth. These seven participants represented a cross section that was consistent with Springhaven's enrollment demographics in honors composition classes. Six participants were female, one was male, and the course professor was female.

### **Data Collection**

My dissertation was designed to collect and examine a variety of data surrounding aural-written remediation. Multiplying my resources provided more occasions for examination as I expanded my one-artifact pilot study into a multi-artifact study of semiotic remediation. Prior and Hengst argued that semiotic remediation emphasizes “signs across modes, media, channels, and so on” and “ways that activity is (re)mediated” in re-purposing materials for present and future purposes (1). To capture a more complex picture of signs involved in semiotic remediation, I collected a wide range of materials across activities related to students' work on their audio revisions. I compiled field notes, interview recordings and transcripts, multimodal artifacts, and student reflections to provide a variety of semiotic resources for study. Prior to conducting field observations, I also studied online discussion board posts and written assignments submitted in a Blackboard course management system to orient to this class's history regarding writing and sound prior to their final assignment. My field observations involved my participating in four weeks of class meetings involving class discussions, lessons, and composing workshops to prepare their audio revisions. I recorded field notes and audio files of class discussions and interviews using a LiveScribe pen, a device that captures

and imports audio as well images of field notes to my computer. As part of my interview protocol, students also provided an illustration of their process in our second interview (see appendix C).

### **Interviews**

Following my selection of student participants, I scheduled initial interviews with the seven students and course professor for the first week of November. This initial interview aimed at understanding students' experiences and attitudes regarding their perceptions of writing, speech, and technology. My questions asked students to explore their histories with writing; attitudes about writing; histories as digital audio consumers of audio books, podcasts, remixes; experience using digital sound editing software; and plans for their audio revision assignment (see appendices D & E). These interviews were brief, ranging from eleven to fifteen minutes. Although brief, I found that these interviews served to provide critical information regarding student backgrounds and attitudes, and helped develop a relationship between us as researcher and participant.

Following initial interviews, every student asked me a version of the following question, "What are you going to do with this? What do you hope to find?" I was struck by their inquiries into my research and their curious tones regarding how I was responding to their experiences. My plans for using their data was clearly outlined in my "Consent Letter and Release Form" (see appendix B); however, these students illustrated that they were invested participants in my study. Such seriousness represented a different ethos than pilot study participants, which I responded to as an opportunity, questioning them more rigorously about their perceptions than I had students in my pilot study. My

follow-up interviews incorporated new questions that prompted them to reflect on their ideas about revision, modal affordances of sound and writing, their written-audio remediation process, and their perceptions of how speech and writing were related. These second interviews were more extensive, ranging from seventeen to thirty-two minutes in length.

Follow-up student interviews took place during exam week after student submissions of a final project. Their final projects were their audio revisions in which students were asked to “take anything [they’ve] written for this class (a paper, a reflection, a writing into the day entry, even a discussion post) and...revise it ‘for the ear.’” (see appendix D). Prior to the second interview, I had collected artifacts related to each participant’s project (e.g. original and annotated drafts, cover letters, audio files, and works cited pages). I was then able to reference those documents—in addition to their student process illustrations— throughout final interview sessions.

I incorporated student process illustrations as a method for witnessing student composing processes that occurred outside of my observable field. I asked students, at the conclusion of our initial interview, to illustrate their process, including interactions with other people, texts, and technologies during different stages of composing their audio revisions. My process illustration method was adapted from Prior and Shipka’s use of participant illustrations in interviews as a tool to facilitate discussions about process and provide, “a thick description of literate activity” (“Chronotopic Lamination”). I found that these illustrations combined with participant narratives, class observations, and sound files provided more of a comprehensive picture of remediation practices for

analysis especially since I was not able to witness students when they were recording their audio revisions.

My follow-up interviews were designed to look closely at attitudes and practices involved in students' final audio revision projects. I asked students to reflect on the significance of their audio revision, their process of revising writing into sound, and any changes in their attitudes towards aspects of written-aural texts. I opened interviews with general questions about attitudes towards audio revision work and then transitioned to students explaining their process illustrations, describing each series of symbols and words and what they signified. After students explained their process, I directed their attention to their audio revisions using a laptop computer with audio software cued to play their sound file. Students listened to their audio files, using controls to play and pause throughout, and narrated their responses to their projects. In giving instructions for this part of the interview, I tried to present this as a flexible task because I wanted to gauge what was most striking to them as listeners. I did not want them to be hypersensitive to some aspect of the audio that I found outstanding; instead, I was curious what features or affordances were more perceivable by them as listeners. I also thought their responses to their audio would help me understand relationships between their intentions, practices, and perceptions when working with digital sound. Some artifacts I had gathered provided documentation of their intent (annotated revision), their rationale (cover letter), and their process (illustration); however, I recognized that these could be ill representations of their thoughts as each document was submitted to Professor Amelie as part of a grade. Prior to listening to their audio, I invited students to, "stop and speak

when something strikes you.” In doing so, I wanted to gauge their affective responses to hearing themselves in mediation, specifically to their digitally recorded voices. While some focused on the effect of digital mediation on their voice, others focused on attitudes, practices, and histories that informed audio revisions. This part of the interview provided rich data regarding their attitudes and practices. I realized later that participants were confused with the task I had presented and that I needed to better articulate instructions for this portion in future iterations of this study.

Overall, second interviews proved more relaxing and candid than I had experienced earlier in pilot study interviews or initial interviews. These participants spoke about details from Composition II as if we had shared the experience of class discussions and activities, rather than positioning me as an outsider who needed details to understand the class context. Having conducted initial interviews to acquaint ourselves and having spent several weeks attending each of their classes seemed to communicate my shared sense of interest in their final projects. We seemed to have established a relationship as researcher and participant, and they were invested in my project. I suspect this relationship influenced their willingness to invest in critical thinking about relationships between writing, speaking, and digital sound in the final portion of second interviews. In exchange, students invested in my inquiry by sharing insights they had been processing and preparing outside of interviews for our final meeting.

In addition to interviewing students, I interviewed Professor Amelie, the professor of record (see appendix E). I interviewed her to understand how her theories of writing and sound influenced her course and assignment design and to help me contextualize data

I had gathered. In these interviews, I also hoped to understand her perception of student responses to remediation, including their attitudes about approaching novel tasks. Our initial interview took place the same week that I started working with students in mid-November. In this interview, I asked Professor Amelie to explain her course design rationale, her perception of its effectiveness, and how speech and writing had been used in class activities. In addition to understanding course context, I wanted to gauge her sense of student willingness, up to that point, to engage in audio revisions. I had gathered artifacts with information about her rationale in assignment design; however, those documents—repurposed from previous semesters—may have omitted subtle shifts in course delivery that had taken place in this situated environment. Our interview helped to clarify distinctions in her vision for this class community.

A follow-up interview with Professor Amelie followed winter break, providing her reflective distance from the course. I chose to schedule our follow-up interview after the course ended because I did not want interview questions regarding student performances to influence her perception or grading of their audio revision projects. My interview questions focused on her perception of student performances and value of composing with writing with audio. While my study examined student perceptions of relationships between writing and speech, I witnessed students negotiating a variety of assignment structures while composing and arranging their audio revisions. One of those structures was a pedagogical heuristic provided by Professor Amelie in her assignment discourse, including graded weights and a rubric. I understood that her pedagogy gained significance as situated under a larger departmental environment, so my interview



questions also prompted her to reflect how this audio revision worked within composition II course content and department goals for first-year composition. As a result of these interviews, I was able to contextualize student performances and perceptions within her design and delivery of course content while working through my analysis.

### **Data Analysis**

I spent months transcribing and coding data without referencing outside materials as I aimed to maintain principles of grounded theory analysis, beginning with my data rather than existing theoretical frameworks. Certainly, I was not a blank slate, having read studies and theories that informed my research design. Still, I wanted to discover what the data would reveal, recognizing unique qualities of human subjectivity, process, and interaction (Charmaz, *Constructing Grounded Theory* 7). Grounded theory provided a recursive method for category building as I completed open coding of data with descriptive gerunds, memoed about emerging categories, and conducted theoretical coding to ensure quality. I wrote memos that analyzed specifics in the data and built categories from my data instead of using existing theories designed for sorting data. Glaser and Strauss cautioned against this arguing that opportunistic theory tacked onto data, without being generated from the data, often has “dubious fit and working capacity” (4) failing to recognize and suit the situation or data being studied (5). In my study, grounded theory’s recursive process of data analysis ensured that productive concepts emerged while cursory or unrelated concepts faded.

During this time, I incorporated grounded theory methods including open coding and comparative analysis with theoretical coding to create a dialogic approach between

data analysis and theory building. My open coding started with an analysis of a variety of multimodal artifacts and transcripts, gathered in print and digital formats. Initially, I examined relevant portions of each text using gerunds in line-by-line coding to “detect processes and stick to the data” and to provide a “strong sense of action and sequence” (Charmaz, *Constructing Grounded Theory* 49). Using gerunds helped me to articulate what was happening as I focused on describing and resisted premature abstractions or theorizing. I found that negotiating new modes for composing (e.g. digital audio) provided a body of codes from language deeply situated in participants’ histories and contexts rather than drawn from widely accepted theories on remediation. These emic categories helped to situate emerging concepts within my study, ensuring reliability in coding and keeping categories close to data, rather than my prematurely abstracting concepts from cursory readings.

I remained cognizant of my attempts to code by naming activity through participants’s characterizations of events and attitudes, rather than coding by using language from my premature analysis. I found open coding methods provided opportunities for reflexivity as I engaged in detailed coding, forcing me to consider my assumptions as I coded semiotic features. This enabled me to understand how students characterized speaking, writing, and sound by focusing on in vivo codes, which emerged from “participants’ special terms” (Charmaz, *Constructing Grounded Theory* 55). Some terms were predictable as elusive, situated concepts (e.g. “writing,” “formulaic,” and “voice”). Other terms were surprising as they emerged across multiple sets of participant data (e.g. “portrayal,” “personal”). Examining instances when I coded a phenomena with

in vivo language allowed me to “attend to how they construct and act upon...implicit meanings” of situated relationships (Charmaz, *Constructing Grounded Theory* 55).

Marking data with in vivo codes meant that I could look back during comparisons to see how students conceptualized their relationship with respect to various tools, contexts, and practices. When coding student illustrations, for example, I used participant language to code actions as they described them in follow-up interviews. This was productive when considering how images, namely symbols and stick figures in their process illustrations, gained significance through otherwise elusive representations.

Open coding also afforded a means for me to become perceptive of patterns in categorization (Charmaz, *Constructing Grounded Theory* 57-60). These patterns emerged in repeated references to relationships such as “formulaic writing” as contrasted with “fun audio projects.” These characterizations reflected histories and attitudes that transcended student’s composition II experiences, and I needed an approach that would account for this unique empirical world. Charmaz argued that coding emerges from empirical worlds being studied as a researcher develops categories that “crystallize participants’ experience” (*Constructing Grounded Theory* 54). Moving from coding to category building involved a series of flexible, creative, and engaging methods such as memoing and diagramming that helped crystallize experiences and attitudes. In my study, memoing functioned as tool for exploring codes, recurring patterns, and surprising outliers in my synthesis of student descriptions, establishing categories that analyzed instances of semiotic remediation.

## **Memo Writing**

In addition to matching the epistemologies of writing studies, grounded theory methods mirrored the disciplinarity of writing as I sought to understand and develop theories using field-specific methods. Joyce Magnotto Neff argued that these methods of grounded theory “[give] writing its due as knowledge-making process” (“Grounded Theory” 129). I used memo writing to describe, synthesize, and reflect throughout my study. Writing memos was a key component of my methodology, beginning with initial data collection, continuing throughout data analysis, and concluding with clarifying ideas for dissertation chapters. I used Macjournal, a digital journaling software, to write and organize memos by date, numbering them for ease of referencing. These memos ranged from 93-1600 words, incorporating a variety of multimodal artifacts including scans of student process illustrations, screenshots of Audacity sound files, explanatory diagrams, and visualizations of emerging categories in addition to exploratory prose.

In November and December during my study, I memoed following each class and participant interview, recording initial observations and questions (see appendix F). I also constructed brief memos while completing interview transcriptions to record my initial responses to the data. These early memos provided critical questions and observations that guided my analysis. In my coding and categorizing process, I reviewed and made sense of data artifacts and early observations. Each analytical memo made specific references to data raising critical questions, connections with other data, and/or theoretical implications of observations (see appendix F). I wrote these memos over a series of months when I was deeply immersed in analysis. While initially tedious, I soon

discovered that writing memos resulted in many productive discoveries and learned what Neff characterized as “the practice of grounded theory...a stunning example of the fusion of thought and language” (“Grounded Theory” 134). Memoing was a critical part of my coding and data analysis, functioning as a place to discover, explore, and organize ideas about emerging categories and connections within the data.

With more than twenty extensive memos written during my coding, these memos were a touchstone for orienting to the data as well as my evolving conceptualization of their significance during analysis. I initially memoed about my insights and observations during coding, making detailed references to student artifacts or comments made during the interview process. These memos did more than describe data; they analyzed and synthesized data and “capture[d] patterns and themes” in dynamic, messy, and uncertain ways (Lempert 253). As my memos progressed, I unconsciously started creating subheadings within the memos. These subheadings helped identify threads that became analytical categories. I printed, cut apart, and sorted memos to discover categories. These memos had direct references to codes and data, serving as condensed versions of various data sets. Before building an explanatory schema for my findings, I re-read through all memos and coded different ideas explored in the margins. Finally, I cut memos apart and sorted them into respective groups of related units of prose. I measured a unit as a section of prose that focused on one topic with lengths ranging from a sentence to a paragraph. I spent extensive time recoding each unit, narrowing each group, coming up with category names, and removing outliers. In this stage, memos themselves became artifacts and a primary tool that I used when establishing categories. I worked through several

explanatory schema for findings while I engaged in recursive memoing to help “construct analytic notes to explicate and fill out categories” through comparisons and “articulating conjectures” (Charmaz, *Constructing Grounded Theory* 72-73). In order to explore connections among study circumstances, I also used visual techniques such as diagramming to conceptualize my analysis.

### **Diagrams**

In addition to alphabetic artifacts and written methods, I used visual methods for analysis and concept building. As memo writing mirrored composition’s disciplinary way, diagrams and visuals mirrored multimodality’s disciplinary way. I condensed and arranged my ideas into visual frameworks by creating images and diagrams in a method that suited a multimodal study. Miles and Huberman argue the following regarding the value of visualizations:

Conceptual frameworks are best done graphically, rather than in text. Having to get the entire framework on a single page obliges you to specify the bins that hold the discrete phenomena, to map likely relationships, to divide the variables that are conceptually or functionally distinct, and to work with all of the information at once (qtd. in Corbin and Strauss 125).

My study involved such a varied corpus of data that visualizing and diagramming helped me to condense information into key ideas and their relationships. Early visualizations helped me to recognize “relationships among categories” while later visualizations were a means of examining connections I conceived against the data itself (Neff, “From a Distance” 143). In one case, I was struggling to conceive a relationship between a

participant and his music when I exclusively used writing as a method of analysis. Later visualizing this relationship through a conceptual metaphor helped me to clarify a relationship I was unable to articulate in alphabetic prose. This student, John, exhibited a deep history with music having served as a worship leader in his church. His relationship with sound was unique because he positioned himself within music as if he was in communion with God. His descriptions were interesting because they contrasted other participants' characterizations that positioned themselves beside or outside of music. I struggled to articulate how John was characterizing his history with and relationship to music while working through his interview transcript, especially as he characterized himself even differently when talking about sound editing in composition II. In response, I found myself drawing a graphic to represent relationships between John, God, and music. In doing so, I created a crude but insightful spatialization of John's ideas, and was able to compose a thoughtful memo that explored previously elusive aspects of this relationship. This illustration allowed me a way of conceptualizing phenomena in his relationships with self, sound, and other that aided my subsequent analysis.

My analysis also employed other diagrams as I processed my data. Some diagrams were created in situ to help capture relationships between participant bodies and technologies used; for example, my field notes exhibit diagrams of student postures from a sound editing workshop session. I had observed students who were postured differently depending on their activities. Listening was often accompanied by leaning back in the chair; editing music or writing resulted in more of an upright posture; and students recording their voices had hunched bodies with faces almost touching computers. This

three-tiered illustration in my field journal supported later findings in categories of my coding, specifically helping me bring two concepts together that were otherwise separate. I captured distinctions in a graphic of students engaging with writing, listening, and recording which prompted my awareness of any distinctions in these activities. Subsequently, my questions in follow-up interviews asked specifically about student perceptions of voice with respect to listening, reading, writing, and recording.

Another diagram played a critical role in helping me conceptualize multiple artifacts included in my study. During theoretical coding, I found my vast data collection revealed shifts over time in student perceptions of various phenomena. Further, student remediation practices reflected a recursiveness that was not illustrated in their process drawings. This complexity was overwhelming as I tried to work with various sources and understand relationships within my data. In response, I created a diagram to represent a timeline of modalities employed in audio revisions. This timeline of artifacts from my data collection helped me to “think about the data in ‘lean ways’” (Corbin and Strauss 125) because I positioned artifacts unfolding over time and emphasized modalities employed at various stages of audio revisions (see fig. 1). This graphic helped me to consolidate data sources to ensure I understood remediation artifacts over time.



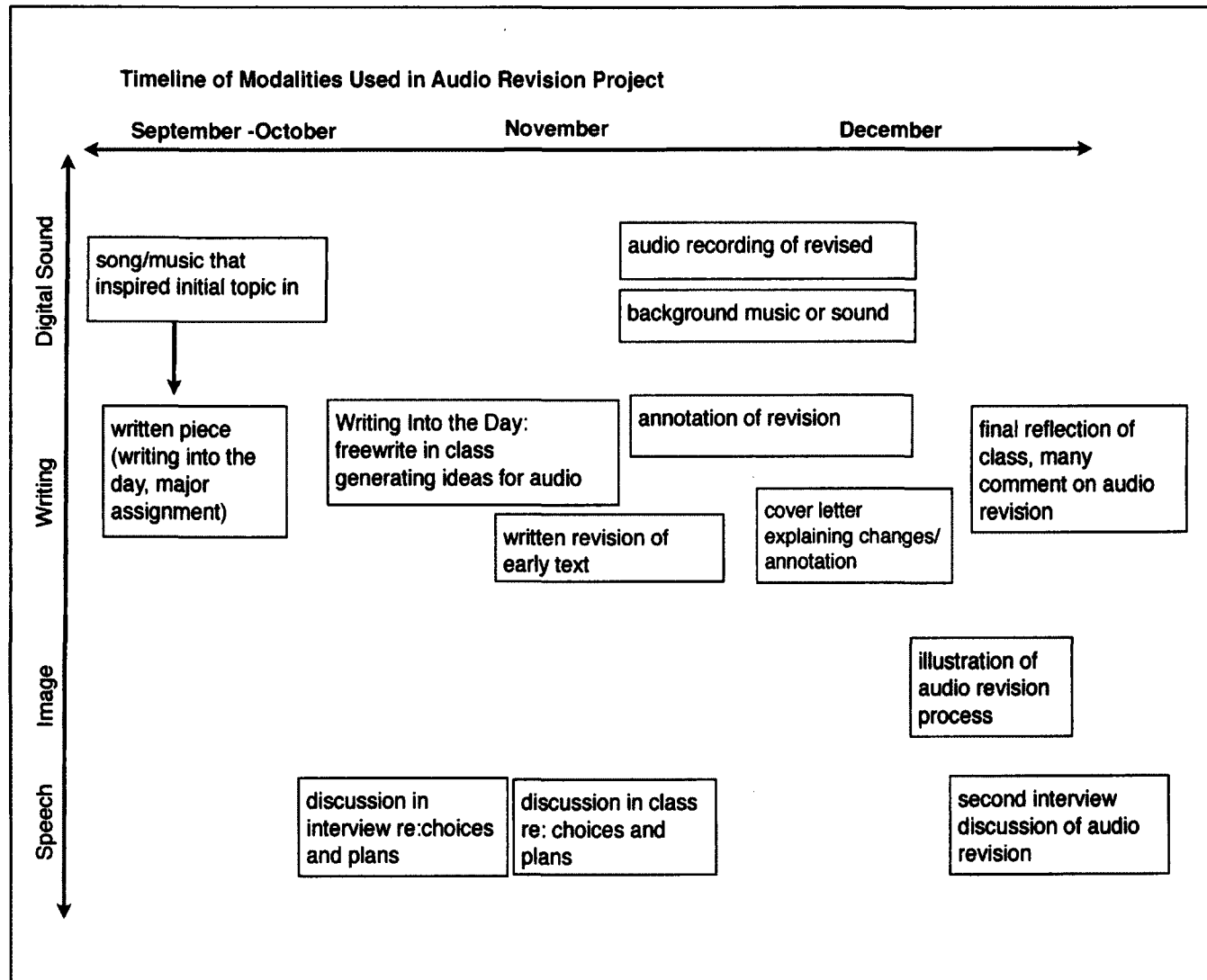


Fig. 1. Timeline of Artifacts from Data Collection of Audio Revision Project

I also used diagramming for another conceptual consolidation while writing my analysis chapter to understand relationships among emerging concepts. Using a series of shapes and arrows, I created half a dozen visualizations to understand how semiotic remediation was influenced by social and material factors. While working through various explanatory visuals, I rearranged objects, reoriented lines and arrows, and added and deleted concepts. Diagramming this process helped me to articulate relationships among concepts, recognize instances within concepts, and organize my writing for chapter five (see fig. 2).

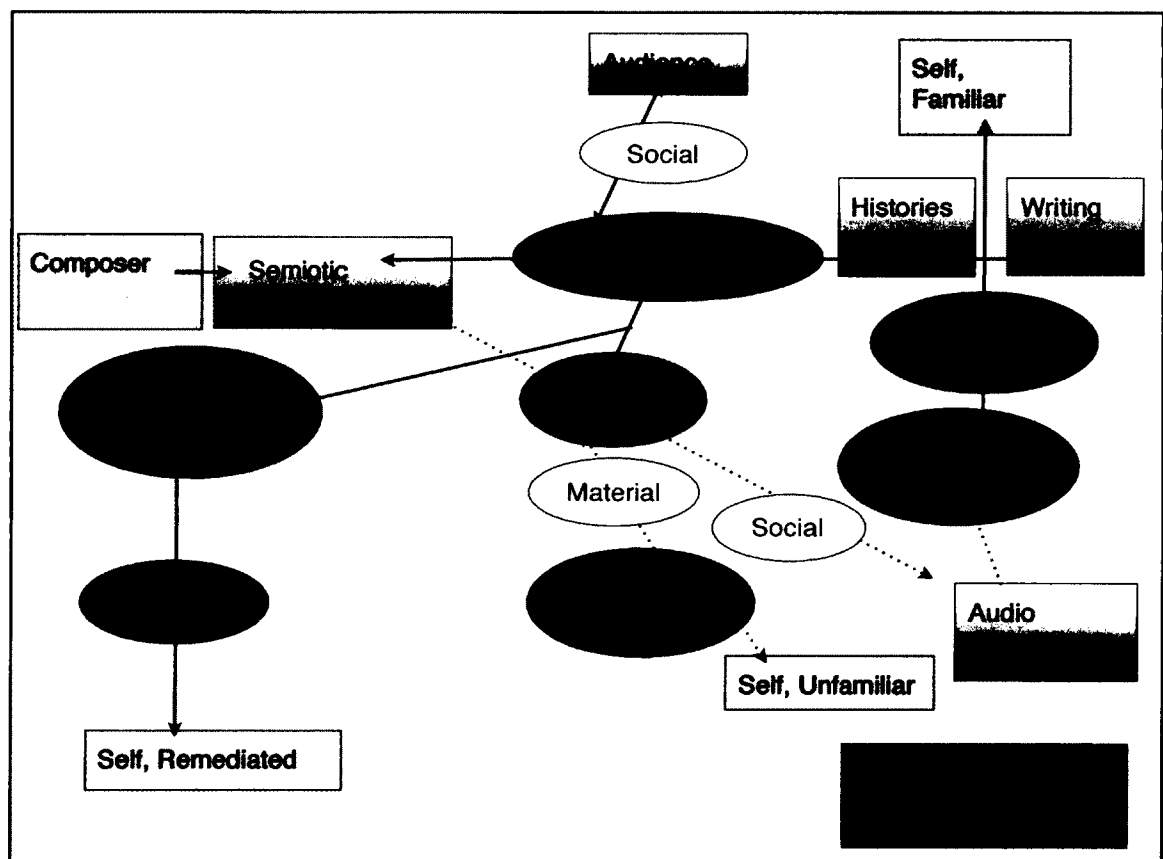


Fig. 2 Social and Material Impact of Semiotic Remediation

### **Comparative Methods**

In conjunction with open coding, memoing, and analysis, I recognized a need to return to my data, its conditions, and my analysis to engage in comparative negotiations in contradictory data. I returned to grounded theory's comparative method of category building and theoretical sampling to aim for "a complex theory that corresponds closely to the data, since the constant comparisons force the analyst to consider much diversity in the data" (Glaser and Strauss 113-114). I engaged in constant comparisons using theoretical sampling within my study to examine and compare fragments within my data sets (Silverman and Marvasti 263). My theoretical sampling involved my adopting a heuristic that would afford me a secondary means for coding the same data sets to determine if emerging categories were across as well as within participants' data. My initial data sets include codes from primary artifacts associated with each student's audio revision (e.g. a cover letter, an annotated revised draft, a process illustration, an audio file, and pre and post interviews). In order to test my emerging categories, I compared these codes with other parts of the data such as field notes, discussion posts, and professor interviews.

Specifically, I used Glaser and Strauss's method of theoretical sampling "in order to discover categories and their properties, and to suggest the interrelationships into a theory" (62). Properties of semiotic remediation include examining texts that transition between modes for different purposes (e.g. a written bibliography of song titles revised in an audio reflection) rather than in isolated modes. In addition to looking at ways texts were interrelated, my study examined student perceptions of relationships between

speaking, writing, and digital mediation in this process. Student texts exhibited “transformations across mediums, genres, and sites of engagement” (Prior, Hengst, Roozen and Shipka 761), and their perceptions of composing practices exhibited crossovers that adopted, contrasted, extended, and relied on discourse from various texts and environments. As a comparative method, I examined across data sets to consider whether time and a shared experience were variables that may shape my analysis and concept building. I coded artifacts that occurred at similar times, moving chronologically through the course material. In doing so, I wanted to understand how perceptions emerged from these relationships as I developed a theoretical framework for analysis.

My comparative coding highlighted students negotiating an expanse of texts from their histories and current class climate while completing their audio revision. My open coding had highlighted features of individual practices and attitudes, and comparative coding brought those features together, highlighting patterns and phenomena that emerged as concepts. My initial, open coding highlighted the situatedness of participant responses to remediating written discourse into digital audio. For a comparative analysis, I used intertextuality as a theoretical lens to discover patterns in interactions with and perceptions of a variety of semiotic resources employed in remediation. My comparative method drew from Glaser’s approach of using “theoretically informed category building” (198). I chose to frame secondary coding through Charles Bazerman’s notion of intertextuality as a framework for considering participants’s uptake of texts, their discourse, and larger ideological worlds in framing their semiotic remediation practices. Bazerman defines intertextuality as

the explicit and implicit relations that a text or utterance has to prior, contemporary and potential future texts. Through such relations a text evokes a representation of the discourse situation, the textual resources that bear on the situation, and how the current text positions itself and draws on other texts. (“Intertextuality” 86)

I examined intertextuality as it revealed student perceptions of relationships between speech, writing, and digital mediation. I found that intertextual references highlighted sources of those perceptions as well as functioned as catalysts for shifts in evolving categories—such as distancing—that were not evident in open coding.

Open, initial coding resulted in eighteen categories that described phenomena featured in the data (e.g. negotiating a natural sounding revision in a written process, writing in social spaces, recording in private spaces, and audio as portrayal). From these eighteen, I spent time memoing about connections between and within the categories and narrowed them into fewer, more abstract categories for secondary, theoretical coding (see table 1). I renamed the new categories as verb phrases, capturing activities that were occurring in the data. These new categories were (1) attending to materiality, (2) visualizing sound, (3) positioning voice/thought outside of body, (4) connecting, (5) resisting and distancing, and (6) developing reflexivity. I used these six abbreviated categories as frameworks for re-examining my data corpus, specifically looking for intertextual references within participants and across case studies.

<b>Initial Coding Categories</b>	<b>Theoretical Coding Categories</b>
Histories identifying with Sound (talk, music)	Attending to materiality
Negotiating a “natural” sounding revision in a written process	
Audio Revision as fun, modernizing, freeing	
Conceptual Remediation--Conceptualizing Sound through Visual-Spatial Metaphors	Visualizing sound
Audio as Portrayal (distance, atemporal presence)	Positioning voice/thought outside of body
Disembodiment of Voice in Digital Audio Mediation (Self as Outside)	
AP Histories Where Writing is Formal, “right” as benchmarks	Connecting
Music as Channel to Past, Emotions, Mood, Narrative	
Music and Listening as Internal Acts	
Valuing “Personal,” “Real,” and “Raw” in Audio Revisions	
Negotiating Audio Remediation Genre (w/history, other student projects, audience)	Resisting and distancing
Resistance to Revision (Corrective, Fixing, Unnecessary)	
Tensions Btwn Self-Efficacy of a Clicker & Computer Agency over Anxious Users	
Participant Cognizance of Modal Affordances	Developing reflexivity
Remediation as Reflection (Revision, Medium, Past-Present, Future)	
Gauging Remediation Goals and Success on Audience	

Table 1. Categories for Initial and Theoretical Coding

My goals in conducting theoretical coding with intertextual analysis were to clarify conditions and characteristics of these six emerging categories and to examine how concepts worked together to reveal emerging theories. As a framework for theoretical coding, Bazerman's concept of levels of intertextuality provided me a heuristic for examining how conscious participants were of texts and mediums that influenced their decisions and perceptions of remediated composing. According to Bazerman, levels of intertextuality include explicit references such as "draw[ing] on prior texts as a source of meanings to be used at face value," drawing "explicit social dramas of prior texts engaged in discussion," using "other statements as background, support, and contrast," relying "on beliefs, issues, ideas, statements generally circulated," using "recognizable kinds of language, phrasing, and genres" and relying on "available resources of language without calling particular attention to the intertext" ("Intertextuality" 86-87). These levels of intertextuality functioned as a theoretical lens through which I sorted data that fell into one or more categories. I created a spreadsheet for each category locating sets of data (e.g. participant names and field notes) on the y-axis and levels of intertextuality on the x-axis (see fig. 3). By using intertextuality as a lens, I was able to understand how participants balanced "originality and craft" within "specific situations, needs, and purposes" while "rely[ing] on the common stock of language [they] share[d] with others" (Bazerman, "Intertextuality" 83). Intertextual analysis provided a means for looking across data chronotopically to see how participants as a group negotiated a novel composing task.

Levels of Intertextuality	Draws on Peter's Poets	Draws from English Social Issues	Background, Support, and Context	Rely on Details, Names, Dates, statements generally structured	Using recognizable kinds of language, phrasing, and genres
Kathryn	<p>2nd-"In class when we were working on it, Ms Nance kept on saying, "Remember the writing for the ear technique." So, I was trying to keep that in the back of my mind as I did it. So, I had to record it five times to get it the way I wanted to. I didn't enjoy that. But I did-that's why I did this sad face. But I did enjoy editing it, like adding the song into the piece. And like I guess it was the perfectionist in me that I like tweaking things to be just right. I enjoyed that part. Um. And so then I was. I was happy with the final product because I felt. I felt. dunno. content with it, and. Like I said the response I got from the other people kind of. Just for the good closure I guess."</p>	<p>2nd-"Well, I think I value the other pieces more because I spent more time on them, maybe. But uh, I think I'll talk a little bit more about it later. But the responses I've gotten to this piece have kind of made me value it a more... I let Sarah Lynch in the class. She read my piece when I was revising it, and um. She kinda. She complimented it a lot and said it really inspired her in her revision of her piece and how she wanted to tell her story that she was telling. And then yesterday in class, um. We uh, shared some of the writings we were doing. I read this one, and it made Ms Nance cry. (laughs) And so, I felt awful that it made her cry, but it was a heartfelt cry. So, that meant a lot to me, I guess. So, the responses I've gotten have made me value it more. Plus, it is a personal piece, so it kind of holds a special place."</p> <p>2nd - when asked about how she felt when Prof started crying, "I feel like I kind of accomplished my mission because it made me cry when I was writing it, sort of. Not that I was intending for people to cry but knowing that I conveyed the emotion behind it."</p> <p>2nd-"I never really thought about those things before until you asked them. I guess there really is just an insecurity because I don't like the way my voice sounds recorded, so like otherwise I would really like recording if I liked the way my voice sounds. Because I think it does convey like the exact emotion I wanted to, if it worked the way I wanted it to. But I guess just the insecurity of my voice makes me kinda lean towards writing in a way."</p>	<p>1st-referring to audio books and podcasts "I don't like the narrator's voice, I'll turn it off. Like if it doesn't catch my interest. Cause, I'm not an auditory learner. Like. So. I usually have to be doing something to like while I'm listening, or it has to be really interesting for me to just sit there and listen to it."</p> <p>FR-"The vice of my past experiences reared its head again though when the subject of revision was brought up. As my daybook entry quotes, "I strive so hard to get my paper the way I want the first time, how could I possibly make it 'better?'" I chose to revise my "Winter Song" daybook entry, thinking that would be easiest because my daybook entries understandably don't have as much substance, and thus have more room to develop, which proved significantly true. However, I realized in the process of the final revision how I almost naturally revise as I write anyway, and how essential a characteristic it is to writing, thus completely softening my view of the previously dreaded word "revision." In addition, incorporating the aspect of recording our pieces and "writing for the ear" toward the end of the semester expanded my consideration of my audience, keeping in my mind how to appeal to them as well as stay true to my personal preferences and styles."</p> <p>2nd-"Researcher: I was actually going to ask you a question about this, but you talked about in your cover letter, it was an "emotional release" to express the story and put it all together?"</p> <p>K: Yeah because um. It was a personal story, and like I said, if I hadn't sat down and focused on the song, I wouldn't have really. Like in the back of my mind, I knew that I associated this song with that whole situation in my life. But I don't think I would've really gotten it all out there like that and reflected on it like I did."</p>	<p>AR-My revision was a complete and thorough one, looking nothing like the original, simply because I took a portion and "zoomed in" on it, expounding why and how the specific song meant so much to me. I've never had to "write for the ear" before, except when planning a speech or something along the same lines, so I tried to read aloud as I wrote to see how it sounded. Often when I write to plan out what to say, I come across as stiff, getting too caught up in making sure I said everything I wrote rather than the delivery itself. Nevertheless for the subject matter and piece, I decided the best way to achieve and convey the story I wanted, I needed to write it out. Reading aloud as I wrote helped significantly and I realized the weight of inflection and tone when speaking, a lot of emotion is lost without it. I realized that my writing has been trained to be significantly more formal than the way I speak, specifically in the sentence structures. Intrinsic wording doesn't convey well through speaking, and you can "get away" with grammatical errors when speaking, such as run-on sentences, because it is a natural flow of speech. I was thus able to practice "loosening up" my writing by keeping the sound aspect in mind.</p>	<p>FR-" Otherwise, the semester has been revolutionary not only in my writing, but in my life as well, developing my awareness to reflect and even deciding my major for right now. " (Note: Kathryn declared English as her major at the time)</p>

**Key for Artifact Abbreviations**

1st = Transcript from First Interview  
 2nd = Transcript from Second Interview  
 AR = Audio Revision Cover Letter  
 FR = Final Written Reflection

Fig. 3. Theoretical Coding of Intertextual References Within the Category "Reflecting"



I rearranged data sets chronologically to look at artifacts and theoretically coded units into six spreadsheets, separated by categories and levels of intertextuality. In figure 3, I illustrate coded intertextual references for one participant's artifacts, isolating an image of data from one row from a much larger chart. My actual spreadsheets were more extensive, listing all eight participants on the y-axis of one chart, enabling me to see how patterns of references appeared across participants. I rearranged data sets to look at artifacts generated at similar times, coding portions of the data that fell in different categories by levels of intertextuality. As I coded data that fell within each category, I made cross references to units that were also coded into other categories (e.g. "see also disconnecting and distancing"). Crossovers appeared frequently because students repurposed language from one modality to characterize another. Students employed a variety of signs that blurred distinctions between modalities, creating crossovers common to intertextual references. I found Bazerman's definition of intertextuality as positioning a "statement to a sea of *words*" (Bazerman, "Intertextuality" 83, my emphasis) required expansion in light of the multiple modalities employed in this study. Expanding potential modalities for intertextual reference, I accounted for image and sound as a form of intertextual reference, gaining semiotic significance in this task of remediation. In doing so, I included student process illustrations as well as music soundscapes that intertextually referenced texts from student histories and within the class environment.

This theoretical coding emphasized data that fell in multiple categories, highlighting patterns in my analysis. In addition, constant comparison, through theoretical coding, afforded me a method for emphasizing patterns and distinctions,

abstracting concepts from data, and reducing my terminology (Glaser and Strauss 110) to develop a substantive theory. Specifically, theoretical coding allowed me to reduce eighteen categories from open coding into six more complex, abstract categories for examining intertextual references. Subsequently, I was able to outline conditions of each category, generating concepts from among their relationships.

### **Reflexivity**

Reflexivity, a key characteristic of qualitative research, was critical in my application of grounded theory's recursive methods of memoing, coding, categorizing, and theory building. I employed these methods and was aware of their impact on knowledge building as well as my situatedness as a researcher shaping emerging theory. Throughout the study, I used memoing to remain cognizant of my assumptions regarding written-aural remediations, my framing student perceptions, my influence as researcher on their performances, and my limitations in data collection methods. I memoed often about my reluctance to sit in obstructive areas of the classroom during observations. I became aware of my presence as researcher when participants responded hesitantly to my use of a LiveScribe pen for recording field sounds. One student participant, Megan, behaved much differently when I recorded class discussions, trading her typical outgoing personality for a reserved, hesitant one. I drafted this excerpt in a memo following one such interaction:

One fascinating informal moment was when [Megan] walked into the room. She had runner's tape up and down her legs. Since I am a runner, I was curious. I asked her, 'what is that?' She looked at my LiveScribe pen and said, 'Is that thing

on?' I shook my head no and smiled. She put down her bookbag and started to explain it to me. Why did the pen's recording features change whether or not or how she would answer my question? (Memo Dec 5, 2012)

This excerpt illustrates reflexivity as I was aware that my use of a recording device changed our interaction. This interaction heightened my awareness of student perceptions of digital sound, leading me to a series of questions regarding perceptions of voice and self in mediation. Memoing not only provided me a means of reflecting on how I could minimize my presence—and my LiveScribe pen—in the field, but memoing also provided me a method for reflecting on a moment that led to productive questions to frame subsequent interviews.

Memoing also provided an outlet for me to examine my assumptions throughout my research process (Neff, "Grounded Theory" 128). I initially worked through several assumptions that emerged in my pilot study. I was able to articulate these through memo writing and understand how they informed my current research questions. These assumptions were that (1) mediation via digitally recorded audio impacted remediated composing practices, (2) there was a relationship between speech and writing that emerged in these practices, (3) student histories would shape attitudes and practices in remediated composing, and (4) student perception of voice varied in depending on the technology of mediation. I tried to stay aware of these assumptions and their relationship with my research design—namely interview protocol and questions—while remaining open to other phenomena that might emerge. Memoing provided a means of reflecting on my assumptions during interviews and remain aware of being as objective as possible

when posing questions and responding to interviewees. In one interview, a participant was not responding to my questions by affirming my ideas, and I found that it was disorienting as a researcher to be suddenly faced with my assumptions. Following this interview, I wrote “OK, that was rough. I really struggled not to ‘lead’ her during the interview. I wanted to draw from things that were said in class; however, as I said them, it felt as if I was leading the ways she was going to answer” (Memo Nov 26, 2013). Remaining aware of my assumptions helped me to refine my questions in subsequent interviews and concentrate my attention during observations.

While observing a sound editing workshop, I reflected on my own assumptions about what constituted a written-aural remediation. I had yet to consider what properties I expected to appear in student audio revisions until I witnessed a student questioning genre conventions in class. During one class exchange, a participant named Mikala kept asking her professor questions about how much revision was enough. Professor Amelie responded by pointing Mikala back to assignment criteria, rather than providing a quantitative answer such as an expected length in minutes for her audio project. I immediately wrote

I became hyperaware of my own assumptions about what makes a strong audio essay in that moment because I was internally shaking my head thinking that [Mikala’s] work wasn’t ‘enough’ based on her effort, her willingness to engage in the process of revision, and her dismissive attitude in recording (Memo Dec 4, 2012).

In writing this, I reflected on my assumptions and began to look carefully at students' interpretations of their assignments. This instance of reflexivity led to my adding questions about how students technically and conceptually negotiated emerging genres when engaging in remediated composing.

### **Limitations**

In engaging in reflexivity, I also reflected on limitations of my research design and methods, especially how my findings were limited by tools and constraints of my research design. I discovered that while multimodal semiotic resources are rich, situated constructs for examination, they can be elusive to analyze with traditional qualitative methods of data analysis. Coding sound was more difficult than I anticipated. Specifically, student process work in Audacity included layers of multiple tracks of various digital sounds such as voice recordings, background music, and sound effects to create one sound file. After students compiled their sound files, they exported Audacity projects into playable file formats (e.g. mp3), eliminating distinct tracks of sound. This flattened sound file made it impossible for me to see how students pieced semiotic resources together for a whole project. I failed to anticipate this limitation in my research design because I had not requested copies of their working files prior to their exporting. In response, I was frustrated as I wanted to examine pieces of their audio revision in order to see how various sounds were layered and combined. I also realized when working with their sound files that I did not have an effective means of coding audible data. I was unprepared for the task of coding digital sound. I managed to import participant projects back into Audacity, create a label track and provide brief annotations

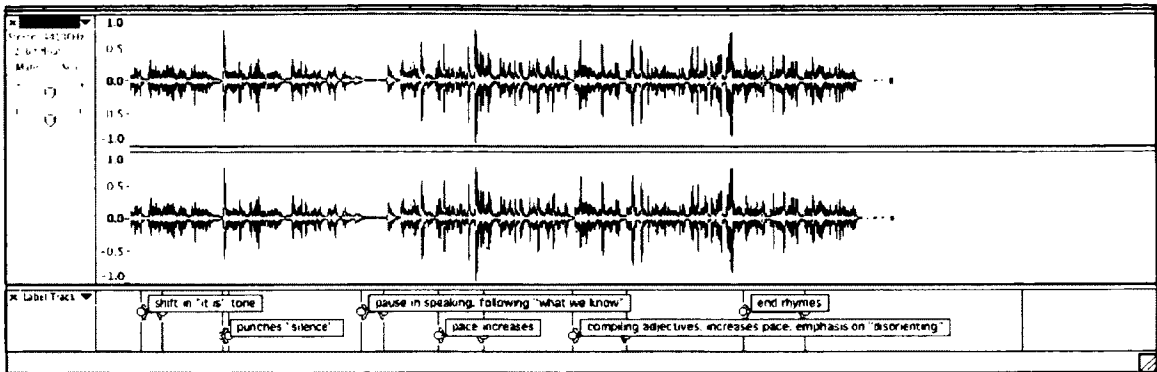


Fig. 4. Annotated Sound File in Audacity

within the sound file; however, I found this method insufficient for handling robust coding of sound (see fig. 4).

Digital sound existed as a temporal artifact, posing a challenge as sound projects unfolded over time without spatial permanence for study. While I could generate rudimentary transcripts of each audio revision, I could not translate some features of sound into alphabetic text such as layering, fading in and out, and simultaneous sounds such as music and voice. This limitation highlighted my history with print-centric methods of traditional annotation and coding. I came to realize that new media texts are emerging bodies of discourse that will require scholars develop new methods for data analysis to function within various modalities being studied rather than translating a new media text into a written format for coding and analysis, and, in doing so, losing unique dimensions of that text in the remediation.

### Conclusion

Despite limitations, this study provided rich data in a robust confluence of modal texts involved in semiotic remediation. Complex artifacts from audio revisions and

research contexts highlighted patterns and contradictions in students' perspectives on writing, speech, and digital sound that were productive for theorizing about social and material relationships in remediated composing practices. Specifically, grounded theory provided an approach that examined semiotic remediation as a process, gaining significance in situated practices, influencing present contexts as well as histories, and influencing attitudes about composing with technologies.

## **CHAPTER FOUR**

### **FINDINGS**

#### **Overview**

In this study, I witnessed students navigating an unfamiliar composing task in their completion of an audio revision assignment. Translating a written document into digital sound required that they engage in complex negotiations within specific material and social conditions, a process that influenced their later characterizations of features of speech, writing, and digital sound. These characterizations provided a rich body of data to address my research questions. Throughout my study, participants described aspects of written-aural remediation with language that was shaped by their academic and personal histories prior to Composition II and that reflected evolving attitudes and practices as a result of their audio revisions. In this chapter, I will describe key findings from my study including (1) how digital sound functioned as writing for students, (2) how histories influenced students' characterizations of modalities, (3) how students characterized the consequences of digital mediation on audible voice, and (4) how students' perceptions evolved during my study. I will begin each subsection by presenting commonalities within each category and transition to addressing descriptions of any individual variations in the data.

#### **Interpreting Digital Sound as Written Speech**

##### **Negotiating New Materialities**

Students had to negotiate new materialities with sound editing devices and software to complete their audio revisions because they had never before composed a



sound editing assignment. Many students were frustrated while completing their audio revision assignments because they could not rely on any prior knowledge of working with these materials. In follow-up interviews, students commented on hiccups with the computers when talking specifically about audio editing. For example, John's process illustration featured a pane where he depicted a computer in the campus lab as a dinosaur, draped in a sign that reads "Dell" (see fig. 5). He explained in his follow-up interview that "this is just a dinosaur computer because it was frustrating me. I sat there for fifteen minutes waiting for it to turn on." These frustrating lab conditions affected participants's attitudes, namely since slow processing confounded class meetings that were designated

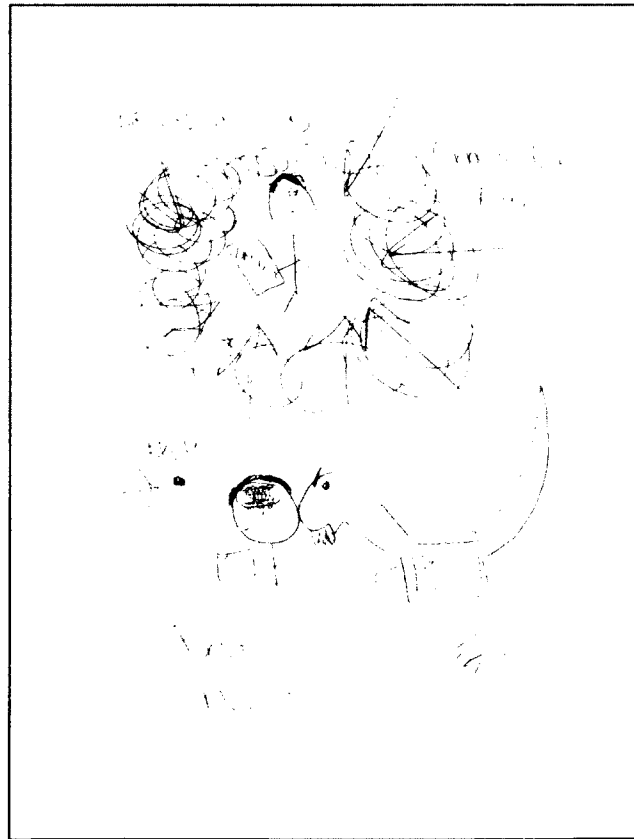


Fig. 5 John's Process Illustration, Frames 1 & 2

for working on audio revisions. Professor Amelie echoed her frustrations with this lab, arguing that there is “not a lot of continuity” with the machines, never knowing whether or not they can count on them to work. Digital audio editing in Audacity required the use of a computer, and unreliable computers drew participants attention to their limited material conditions. Many of these students chose to use personal computers in private spaces for recording because they were so frustrated with lab computers and because they felt insecure recording in a crowded rooms. Six of the seven students composed their audio revisions using their personal laptops with one, Megan, recording her entire project during in-class workshops.

In addition to hardware frustrations, software was another materiality that participants had to negotiate. Two students found acquiring Audacity, the sound editing software, to be a task that was problematic. Megan described Audacity as “clutter” that she didn’t want on her computer, choosing to record in a friend’s room to avoid downloading the software to her machine. This attitude that Audacity was clutter was evidenced in another student’s narrative. Rena explained how she accidentally downloaded “some kind of Yahoo toolbar” that “took an hour to figure out how to get it off.” For both of these students, complications began with acquiring necessary tools to complete this digital audio composition.

Many students mentioned their lack of experience composing with digital sound, noting how an unfamiliar technology inhibited their ability to fully convey their intentions. In her first interview, Rena anticipated having trouble with her audio revision, admitting that she would have to get it “right” the first time because “it’s really hard to

revise it. Unless you're really good with the audio clip." By "really good," Rena was referring to her audio editing skills. In her follow-up interview, Rena confessed that she was very frustrated with her audio revision. She chose to stop when she couldn't get the project "to be perfect." She said, "Well, this is an experiment. This doesn't have to be exactly right because I'm not sure exactly what I'm doing." Her perspective best represents the majority of students, developing a functional knowledge of basic sound editing while lacking more advanced skills for refining their projects. Of course, Mikala's frustrations, founded in her history of hating technology, came through in her inability to upload background music to her revision. Her concerns were that her revision would not "play right" influenced her minimalist approach to audio editing, choosing not to re-record or edit her audio file at all and submitting her first recording with "stumbles." Students' prior experiences working with digital sound influenced how they characterized modal affordances, especially as inexperience and frustration influenced their perceptions.

### **Remediating Writing and Sound**

As students negotiated novel materialities, they were faced with understanding accompanying sign systems in composing their audio revisions. These students had never composed an audio revision and were confused about significant aspects of the task. Students questioned the nature of audio revisions when Professor Amelie introduced this assignment to the class. For example, Mikala asked in class one day, "So, we just revise what we wrote, record it, and put music in it? What's the catch?" Her peers laughed and then quickly looked to Professor Amelie to gauge her response. Students asked other

questions about assignment requirements, unsatisfied until she made a list of artifacts required with their audio revisions. She wrote the following list on the board: “annotated draft-how?, cover letter-why?, works cited, recording.” Students seemed satisfied by this list, nodding in their recognition of familiar genres and their expectations. This moment of anxiety illustrated through students’ embodied responses their latter characterizations of an audio revision assignment as having “fuzzy guidelines.”

Students engaged in conceptual remediation when they conceived features of audio composition through visual-spatial metaphors, triggering imagery that helped solidify an ambiguous modality. In doing so, students and Professor Amelie tried to understand sound through visual analogies. Early in their introduction to sound composition, these students relied on visuals common to writing as they tried to understand the audiocast. During one class session, Professor Amelie shared a sample podcast titled “Colors” from National Public Radio’s show RadioLab. When she prompted students to describe the sample’s significance, students described the choir track as “illustrating” or “showing you what they were talking about” and describing two speakers as “one body.” In addition to implicating visualization with listening, students borrowed the term showing from writing pedagogy, used to explain that writers should “show, don’t tell.” Participants’ tendencies to frame sound through visual modes and terms happened repeatedly in class. In another class, John talked about sound revision as a method of “zooming in” on part of a larger piece. Weeks later, Kathryn intertextually referenced his language, including the phrase “zooming in” in her audio revision cover letter. These visual metaphors seemed to give students a means for understanding a novel

form of aural expression through their histories relying on written features that were visually and spatially measurable.

Students' practices also relied on their foundations in written discourse when engaging in semiotic remediation. Six of the seven students used writing as a beginning step in their audio revision composing process. Many relied on written practices so heavily when composing with digital sound (e.g. writing a script prior to recording) that Megan called "writing and recording the same thing." In preparation for their audio revisions, Professor Amelie introduced Geoffrey Nunberg's principles "writing for the ear." In an accompanying exercise, students wrote to tell a story through sound without using sound, revising a written text through several stages while emphasizing different audible features. This task channeled sound through the medium of writing which she emphasized by suggesting students "create pictures" if they were confused. Students later carried this practice into their audio revision, using writing to organize thoughts prior to recording. John said writing was "really helpful" for processing thoughts, choosing to write and annotate his draft before recording. All students but Mikala used writing as an initial step to their audio composing, most using written documents as scripts for reading and recording. Among those, John strayed farthest from his written draft, referencing "bullet points of what [he] was going to talk about" during recording sessions. He rationalized that "when it was time to talk, [his audio] would still be somewhat informal or somewhat casual, but [writing] was an organized thought process." Ironically, most students drew from their histories of writing practices as a means to capture refined thinking to create the sense of an informal sound recording.

While these examples appear to place writing as a slave to audio production, two students described using writing and sound co-dependently in composing their revisions. Rena and Kathryn's processes differed as their use of modalities was less linear and more simultaneous. Rena recorded sound effects to accompany her stream-of-consciousness representation of a typical day in her mind. One sound included a pen scribbling on paper. She laughed when sharing that she "spent like five minutes scribbling on paper to get the right sound for that." In scribbling on paper, she used writing to remediate the act of writing through sound, so her listeners could audibly sense it. She needed to capture audible perceptions of the materiality of writing. With a slightly different focus, Kathryn described her employment of writing and sound as a means of exploring ideas in writing that might be perceived differently when sounded. She explained, "I've never had to 'write for the ear' before, except when planning a speech or something along the same lines, so I tried to read aloud as I wrote to see how it sounded." Kathryn read her writing, remediating a visual text as temporal speech to anticipate how listeners would perceive her digital products. By "talking aloud while writing," Kathryn explained that she could "see if it flowed easily when I spoke." Her process demonstrated a complex and conflated remediation of modalities and literate practices in anticipation of how her voice might be perceived when recorded.

Student histories, grounded in formal, academic discourse, also influenced how they perceived and valued audio revisions. Overall, participants struggled when asked to characterize digital sound, since few exhibited histories producing sound compositions. In response, most equated digital sound with writing, relying on their past with written

practices and interpreting digital sound as written speech. Beth called the audio revision “definitely different.” She explained that she liked mixing the formal and artistic even as she wasn’t “completely sure of everything” and didn’t have “a definition yet” of what she was doing. Several students, including Kathryn, indicated their perception that writing was valued more than sound composition because of their histories where writing was graded, indicating its value because of how writing had been used to rank success. Following this logic, almost all students indicated that writing was serious while sound was fun. Kathryn described, “the sound [as] just kind of like a fun new exploration kind of thing. But I know some people really like it because it is technology and it's kind of modernizing English class.” Kathryn’s response did not defend her rationalization that digital sound modernizes the English class nor did she draw connections with the goals of this composition class, illustrating a disconnect between student and teacher perceptions of the value of audio revisions in first-year writing.

Participants attempted to conceptualize sound composition by drawing from language typical to the medium of written discourse. All participants referenced visual cues common to written discourse when talking about their audio revisions rather than emphasizing audible sound features. In her final reflection, Beth pointed to her audio revision as her favorite piece from Composition II, especially “the last of each paragraph because I feel they are the heaviest with meaning. I feel like someone can read that and connect it to something in their lives. I also really enjoyed writing it.” When describing her audio revision, Beth’s references to paragraphs, reading, and writing revealed her conceptualization of her audio revision through writing constructs. There are no

“paragraphs” in an audio recording. This pattern of conceptualizing sound projects through writing language occurred frequently. In an exchange between Mikala and Professor Amelie, a misunderstanding was clarified using language tied to measures of satisfactory writing. Mikala finished her first (and only) attempt at recording her voice and then asked, “Do you think fifty-four seconds is long enough?” To which Professor Amelie responded, “If you transcribed it, would that be enough?” Professor Amelie later followed her question citing assignment criteria as measures of whether or not Mikala had produced “enough.” Her initial response, translating “long enough” in sound into a written transcript, conceptually remediated sound into visual means for measuring length. In doing so, Professor Amelie acknowledged Mikala’s frameworks for measuring for writing which often assigned specific length requirements.

In contrast, other students negotiated features of audio materiality by situating them against their working knowledge of written, academic discourse. For Anna, features of academic citation did not translate well into an aural medium. Adept at synthesizing outside resources in her writing, she struggled to indicate how she incorporated others’ words into her audio revision. She shared in her second interview about “one part where I quote something, and for me, reading it with just the parenthesis around it, I don’t automatically think, ‘oh, I need to say quote before it.’ So, I had to put that in my actual revision, so like I remembered to have it while I was reading it.” Her need to indicate the quotation by saying the word quote drew from her roots in academic discourse. In this instance, she framed her audio revision as a sounded version of written discourse rather than a distinct modality with unique audible moves for integrating outside material, such



as layering outside voices to indicate variety in sources of ideas. Instead, she verbally recreated quotation marks, a visual style feature in written research.

Students characterized digital sound as a medium whose formality falls between writing and speech, capturing a more natural form of writing or a more refined form of speech. Their perceptions of its potential for refinement were related to their comfort levels manipulating materials in sound editing. In describing digital sound, all students characterized recorded voices as presenting imperfections of speech in a written script. Kathryn described digital recording as "less formal..than if I were writing just because I was recording. I just think our ears naturally enjoy things that are easier to listen to." With respect to digital sound, students characterized speech features such as imperfections and stumbles, tone of voice, and a personal presence as digitally archived moments of authentic presence. Mikala described these features as "tell[ing]a story naturally, not in a revised and scripted mode." Mikala's history coupled with her helplessness manipulating technology likely influenced her sense that digital sound is not revised or refined. In contrast, other participants, who were more comfortable using technology, praised digital sound's ability to construct layers of edited sound in a more presentable manner than speech. For example, Beth argued that digital sound is "more powerful" than speech in isolation because of her "command on the way it is perceived through the music's tone and the tone of [her] voice." These student examples highlighted their sense of sound's potential for expression while they balanced the value of presence with their sense that academically valued texts often exhibit refinement. In their

comparative characterizations of writing and sound, students revealed their deep histories producing written, academic discourse.

### **Influences of Histories on Characterizations**

#### **Defining Writing Histories**

Students' approaches to composing unfamiliar written-aural remediated texts were influenced by their academic and social histories producing and consuming written and aural texts. Participants exhibited the greatest commonality in their descriptions of writing histories. When prompted to describe their histories as writers, participants drew from their formal, academic experiences in advanced English classes. Every student participant cited his/her high school experience in Advanced Placement English(AP) as foundational in establishing writing attitudes and practices, without my provocation for them to name a specific course. Students repeatedly referenced AP courses and teachers as their primary source for defining writing as "correct, analytical, and formulaic." While they found AP's formality unappealing to produce, they bragged of their mastery in such a difficult course. Students commented on their high levels of achievement in AP courses, often through narratives of struggle, which seemed to bolster their confidence in academic writing. These experiences influenced how they characterized writing, identifying strongly with features and genres from AP English.

When defining writing, students repeatedly identified analysis as a key genre in writing. They described their success with rhetorical analysis in AP Language and Composition and literary analysis in AP Literature and Composition because they felt confident explaining the significance of those kinds of textual features. In interviews,

John—as did others—talked at length about his comfort analyzing poetry or a novel “because that’s what we’ve always done.” While textual analysis would have required synthesis and insight, students did not sense that they had input into their written analysis. Instead, students repeatedly described themselves as performing expectations of their teachers and the AP curriculum. For example, Mikala explained in our first interview, “In high school, I was not able to write the way I wanted to write. Instead, I had to write by a certain formula and analyze aspects, without even giving my opinion.” She later explained that she disliked formulaic writing admitting, “I didn’t feel like it was me actually writing. I felt like how bad the teacher is loose in my head, and what she would say. And that’s what I would write.” Mikala’s sense of analytical writing as a formulaic performance was echoed in others’ descriptions of their histories with writing. Rena said analytical writing “wasn’t very individual or personal,” and Beth called it writing a “knowledge thing.” In all participants’ narratives, they described writing as a performative act seeking approval from an authoritative source rather than a source of expression. Even Professor Amelie commented that these students “have been rewarded educationally because they’re pretty perceptive about formula...they’re very astute in terms of what teachers value.” She anticipated that her “playful” approach to composition was “disconcerting” to many of them. In our interview, several students seemed to anticipate that writing should also account for creative forms of expression but would point to their formal histories as an excuse for their inability to write creatively. Several students excused themselves for not being “good at writing” when composing in creative genres such as poetry, although they were pleased to analyze poetry.

Students described their AP classes as a challenging environment where they were taught to write “correctly” with little drafting to prepare for their AP timed writing exam. Their notion of correctness involved using complex syntax and “really fancy words” in their writing (John). They referenced correctness and clarity to emphasize writing as an exercise in quickly producing scholarly prose that impressed upon its reader(s) a sense of the writer’s mastery of form. Students argued that correctness and clarity were critical in writing, especially for timed writing exercises. These exercises influenced student attitudes towards the value of revision, and participants admitted that they did not regularly engage in revising their work. John explained that the, “idea of revision wasn’t familiar to me because you write what you want really fast, and it has to be precise right away.” These participants valued precision and correctness more than revision, explaining in a class discussion the extreme lengths they went to in order to avoid revision. One student indicated that she purposefully put errors in drafts if she thought she would be prompted to revise them later; following her confession, others in the room nodded and laughed in agreement. For these students, writing required correct, clear prose, and revision was an indulgent, unnecessary performance.

Students described writing as an act aimed at meeting teacher expectations. Their sense of clarity and correctness relied on an authoritative, objective notion that there was a “right” way to write. Beth talked about writing in her past as trying to “meet expectations” or doing “something a certain way to please someone else” to “get it right.” Mikala attributed correctness to teacher expectations for grammatical polish. When I asked Mikala what she meant by “correct,” she explained,

This is writing. It's not wrong...It can't be wrong. And I don't understand how you can get less than 100 because that's just what it is. Unless you just totally don't capitalize anything or if your grammar isn't good, I don't see how anything can be taken off if you follow what's supposed to be done.

Her mention of getting “less than 100” connected ideas of correctness with teachers who give grades for doing “what’s supposed to be done.”

When students tied writing to grading, they associated a variety of emotional responses with success in academic writing. A couple of students, Anna and John, exhibited pride when describing moments when they excelled in writing by receiving high grades for writing. John, for example, admitted that he never needed to learn how to revise because he had always made high grades without having done any revisions. Another student, Anna, recognized her teacher’s power in feedback and grading, describing her determination to succeed despite criticism. In our first interview, Anna characterized her AP senior year experience as “really good” due to her teacher’s challenging approach. She explained that she learned to “be OK with something and have someone tear it to shreds.” In a class discussion, Anna explained that revision was something “you do to fix things marked by a red pen that make you feel stupid.” For John and Anna, writing was a means to a graded end, exhibited by pride in their mastery. For other students, though, deciphering these expectations produced anxiety with their writing. Kathryn’s narrative displayed great anxiety as she explained aspects of writing that made her nervous. She said, “I don't really enjoy it just because it kind of stresses me out...Like writing stresses me out when there is a grade involved.” These student

histories, namely in AP classes, influenced their attitudes and practices, explaining how writing became a foundation for understanding other modalities such as speech.

### **Characterizing Writing and Sound**

Students' histories in formal writing led them to use writing as a starting point for understanding remediation, and many students characterized features of writing and speech by making comparisons. Students would describe speaking as it compared with writing rather than defining features of speech in isolation. Their school writing was often a dominant mode from which other modes (e.g. speech, digital sound) differed, especially as their characterizations intertextually referenced student histories in advanced writing courses.

In initial interviews, student participants characterized writing prior to Composition II as formulaic, arguing that it limited individual style and creative content. Students repeatedly used the term “formulaic” when talking about writing, and they described themselves as absent in their writing, functioning instead as individuals who produced pre-determined texts with no personal investment in their ideas. John described his writing prior to his audio revision as formulaic when “working on a piece for school,” calling himself in those instances “scholar [John]<sup>1</sup>.” He explained that the term formulaic referred to his writing when it lacked personal voice through use of his casual style and vernacular language. John defined writing as if he was removed from his text. He explained, “you want to have strict syntax and diction and using really fancy words that you really don't use normally. Um. So, you sound like a robot in the sense of you're

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<sup>1</sup> John is a pseudonym.

writing to the way they told you to. To the way you know they are looking for something in particular." John's explanation located him as subject to "they," an omnipresent—yet ambiguous—authority figure looking for a specific performance. His description of this performance was characterized by a writer who is robotic, mechanical and inanimate.

In contrast, participants characterized speech as personal and raw. Students used the term personal when talking about speech, connecting with Professor Amelie's sense of why an audio revision would be a meaningful exercise. Professor Amelie explained that she rationalized speech as an appropriate medium for revision because she thought "that in the past sound has acted as kind of like a...more honest or raw or close, closer to actually saying something with their writing." In our interview, she explained her awareness that students' histories featured robotic writing and hoped that speech would foster more personal compositions. Other students anticipated potential to connect the personal with speech because "words are more personal when spoken than when written" (John). Students considered speech personal in its emotive connectivity between speaker and listener, revealing personality through intonation and uncovering raw emotions. Rena equated this personal nature of speech with a speaker's vulnerability explaining, "when you speak that's totally you...you can't hide anything." Rena's description of feeling vulnerable in speech implied a presence of self in the act of speech which contrasted her description of a constructed, refined written performance when she recalled using others' language and was more absent.

Students presented writing as a form of refined thinking, characterized by careful, correct word choice, clarity of thought, and seamless presentation of an argument. For

these students, writing was a means of organizing unrefined thought, over time, into a coherent text. Beth used the phrase “refined thinking” when she explained that

writing is like speaking but writing allows you to do things that sometimes you can't do with your voice. Or things that sometimes you can't think of right then.

It allows you more time to think of your points...I feel like writing is like a refined thinking. And that through writing, we can be more clear about how we're thinking about...something.

Most participants spoke of writing as a mode with potential to achieve clarity of thought.

In her interview, Kathryn presented writing as a modality for invention and delivery, leading her to understand and communicate her thoughts in a composing method she found productive. John echoed this idea, saying that writing had potential to “harness the words that were already just floating around into something that made more sense.”

Participants's characterizations of writing as clear, seamless, correct, and refined emphasized written composition as a performance of edited thoughts. Students described writing as performative when they characterized it as an act of careful construction and presentation. Rena, for example, characterized writing by saying: “you can make it. You can put in words, you can revise it. And like even if other people help you revise it, they can put in some of their own words to make you sound smarter.” Making, putting, and revising are acts that ascribe control to the writer whose actions can perform a “smarter” self. She further described written voice as it exists “on paper.” In doing so, she conceived of written voice as an inanimate representation that contrasted her characterization of speech as an animate, vulnerable connection to her body (e.g. “when



you speak that's totally you"). In this sense, writing not only is refined thinking, but writing can also function as an inanimate representation of others' refined thinking.

In contrast, students characterized speech as unorganized and chaotic, often with negative connotations. They communicated their sense that unrefined language was unfavorable when they apologized for features in their speech. Like many participants, John described his speech as characterized by verbal stumbles and pauses with "um" and "like" that is "sloppier at times." He immediately contrasted this with writing which allowed him to "slow down" and create clarity with his message. Beth echoed this sentiment when she spoke of "flub[bing] or forget[ting] a word," not being able to "express it quite right." Both Beth and John characterized speech imperfections as confusing their messages whereas writing was a modality that provided avenues for achieving clarity. While participants sensed that messages were being fuddled through speech's imperfect delivery, none communicated difficulty comprehending instances of unscripted speech, such as interviews or class discussions that featured stumbles, pauses, and missing/wrong words. Instead, their sense of speech as chaotic only emerged when they compared recorded speech with writing, based on their recognition of stylistic features of formal, academic prose. Overall, students were concerned that their unrefined speech was not adequate in comparison to their refined writing skills. This insecurity was evident in several defensive cover letters whose rationales argued their intentionality in creating imperfect audio revisions featuring stumbles and pauses that captured "natural" voices. While all students seemed uncomfortable with their own disorganized speech, they characterized messy, raw speech features in their peers' audio revisions as endearing.

While I have indicated thematic commonalities, student characterizations of writing and speech had some variations in instances where shifts in context affected their discourse. These variations were evident in my comparing artifacts within one participant's texts where her ideas shifted to suit her intended audience (e.g. professor, researcher). In one critical example, Megan explained in her follow-up interview that "talking and writing are very similar because it's coming from the same place." She spent large amounts of time expressing her frustration with changes she made to her audio revision, arguing that speech and writing were not that different. This was in sharp contrast to an idea she wrote in an audio revision artifact. In her cover letter submitted to Professor Amelie, she wrote, "I struggled with the process a little because writing for the ear is definitely a lot different than writing normally." This cover letter was submitted within a day of her interview with me which presented inconsistent ideas about speech and writing. It was important to consider, however, that Megan's cover letter was a graded part of her audio revision assignment. Her intertextual reference to "writing for the ear" acknowledged a concept Professor Amelie introduced while working on the assignment. For her professor, Megan distinguished speech-writing modalities, likely as her professor's assignment hinged on students revising ideas and modalities in measurably different artifacts. For me, as researcher, Megan characterized modalities similarly and explained her distrust over changes to style to suit "writing for the ear." This variation illustrated the importance of rhetorically contextualizing artifacts in this study in histories and practices that are socially situated.

### **Defining Sound Histories**

These participants shared similar histories in formal, academic environments, producing commonalities in their characterizations of writing; however, students described variations in their histories with speech and—more dramatically— digital sound which situated their perceptions of modalities differently. In contrast to student histories with writing that exhibited commonalities, participant experiences working with sound and technology (e.g. music, sound editing software) exhibited both commonalities and significant variations.

Participants shared a history of access to technology, having all owned and used personal computers for their work prior to college. These histories of access seem to affect their willingness to experiment with technology, expressing attitudes that learning new technologies was a part of life. Except for two student participants, most were unconcerned in our initial interview about working with new technologies for their audio revision even though their histories didn't include any experience editing sound with software like Audacity. In five of seven interviews, students noted familiarity with the idea of sound editing technology although they had no experience composing with it. These students did not, however, exhibit any anxiety about using it for their audio revision project. Most described their plans to click through unfamiliar software until they figured it out. Few students indicated their familiarity composing with digital audio, and none were skilled working within Audacity. Some participants, Kathryn and Megan, provided examples of their limited and/or recent exposure to digital sound products (e.g. listening to podcasts or audio books, using voice dictation applications). Other

participants provided histories tied with sound production through composing music. Anna and Rena shared similar experiences of using sound editing software for a variety of purposes (e.g. high school projects, a sibling's audio remixes, or sign language translations). Rena indicated that she was specifically familiar with Audacity, having watched her brother use it to remix music. She felt comfortable sound editing in her upcoming project with only a vague familiarity with the software. Anna, described working with audio editing for a high school senior video, recounting her recording a voiceover for a video narrative. She treated this experience with nonchalance communicating her lack of concern for any technological problems that might arise while working on her audio revision. Her self-proclaimed "click and figure it out" approach communicated a self-efficacy that was also present among five other student participants.

Regarding general histories with technology, most participants expressed a confident, experimental approach in their histories of working with technology; however, Mikala exhibited an overall mistrust of composing with technology. Students' backgrounds with audio composition resulted in varied perceptions of semiotic resources and significance when composing with digital sound. Not all students were comfortable working with audio technologies. One participant was one of two students in the class who Professor Amelie indicated was "really nervous with technology." Mikala exhibited strong distrust of technology in her interviews, pointing to her frustrating glitches and problems in the past. When I asked her about her history with technology, she responded by saying

I like to hit it. I hate technology...Uh. I have a hard time figuring out how to do a program. Uh, it's like. I don't know what it is. It's like a block. Me and technology don't get along. And when I tell it to do something, it doesn't do what I told it to do. And I know the technology is as smart as the person using it. I guess it shows me that I do have a flaw and that is working with technology. I press the wrong buttons. I don't export things right. And then by the time everything is said and done, I may have deleted all of my work.

Mikala's "hate" of technology was unique among participants. She indicated technology was not solely responsible for her problems, pointing to her misunderstanding and misuse of buttons and commands. Still, she personified technology by describing it interpersonally (e.g. "me and technology don't get along") and transferring blame for technological problems. Mikala's anxiety level, grounded in a history of frustrations, shaped her unique practices when compared with the other six participants. She approached her remediation by having minimal interaction with a computer, choosing not to edit her sound file to avoid opportunities for tech problems. Her process contrasted with other students' approaches who shared similar histories of lost or corrupted projects but took measures to back up files in a variety of media. In addition to Mikala's avoidance of technologies for composing, her history revealed no ties with sound as a mode for expression.

Two participants identified strongly with music as an expressive modality and self-identified as musicians. When prompted to explore their history with sound technology, John and Beth self-identified as musicians, exploring their histories with

music without directly connecting those experiences with audio editing. Their histories influenced their receptiveness and unique perception of sound affordances for their audio revisions. John, a Music Education major, described his history as a music worship leader at church, identifying music as “personal and spiritual.” He characterized this experience as a medium through which he discovered “the person I am.” John explained that being a music leader was the “first time that I could actually feel the power of the words coming out of my mouth.” This history shaped his perception of digital sound to channel and capture moments when music functioned to place John in communion with God, the topic of his audio revision. His connection with music and sound was so deeply personal that John felt his audio revision was a medium through which he could be more himself. He wrote in his final reflection that, “When I hit play for audio reflections or files, it is the more me ‘me’ coming out to talk about what I’m trying to convey,” sounding “like myself” rather than sounding “scripted.” His strong identification with “sounding” like himself emphasized his history and comfort expressing himself through music, especially as he contrasted that with written scripts.

Another student, Beth, also exhibited a strong background composing in sound as a musician. Beth’s attention to and articulation of sound dynamics indicated that she was working from a music background. Her experience as an instrumentalist came through as she described looking for a “choral piece” or a “low string tone” to accompany her serious audio composition. She confirmed that she was an instrumentalist, having played clarinet for six years. She exhibited a history with music that made her more sensitive to variations in dynamics, tone, and instrumentation, which influenced her characterization

of digital sound. While replaying and commenting on her audio revision, Beth spoke of variations in the “intensity” of the sound as it coupled with her voice. She spoke of using music to create dramatic changes by adding lower brass to a section to mimick a shift in her narrative from day to night and light to dark, concluding her somber message with a fade out. These examples illustrated Beth’s characterization of sound as it was heavily influenced through chronotopic laminations of her history as a musician with her current practice remediating written discourse into digital sound.

### **Characterizations of Mediated Voice in Sound**

#### **Disembodying Voice**

When students characterized their recorded voices, they highlighted their unfamiliarity with audio compositions and their discomfort with listening to their recorded voices. Students repeatedly described their digitally mediated voices as “out there,” and, in doing so, located their recorded voices apart from their bodies, in sharp contrast to ways they characterized written voices as internalized. When first recording in class, student postures were hunched and hugging microphones in ways that seemed to connect body and machine; however, their embodied responses to hearing their recorded voices revealed a perception of separation. Rena described recording as feeling “weird coming out of my mouth, like I stumbled over my words.” In this characterization, her disembodied words felt strange in the act of recording, metaphorically exaggerating her awkwardness in stumbling through mediation. John also talked about how his “speaking came out,” creating a sense that speaking is within until separated from the body through mediation. For John, this separation served as a kind of catharsis, “getting out what was

weighing down [his] heart.” For others, this separation was disconcerting and disembodied.

In Kathryn’s experience, as in that of others’, recording her piece with audio editing software heightened her awareness of her disembodied voice. Kathryn’s process illustration characterized music listening and recording in different ways with respect to her body and mind, differentiating her perceptions of hearing other’s voices and her voice when recorded (see fig. 6). Kathryn’s illustration began with a frame illustrating her thinking of a topic for her audio revision, featured as a mental bubble connected with her mind. Her second frame featured only a partial image of her body as an ear with a corner of her glasses to show listening to Judy Garland’s song “Have Yourself a Merry Little

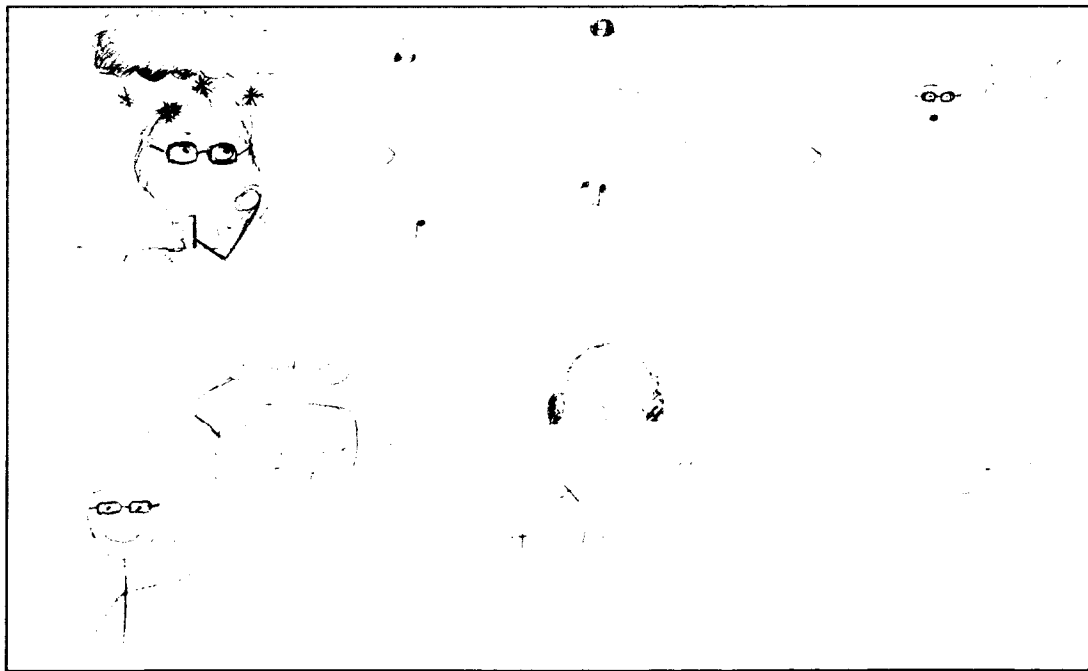


Fig. 6 Kathryn’s Process Illustration



Christmas.” Her depiction of this stage in her process emphasized listening to music as mental activity taking place within her body. Zooming back out, her third frame depicted her seated and speaking into a computer in front of her. In this frame, her voice is coming “out” in a speech bubble to be captured by her machine. In our follow-up interview, she described this process as getting “all of her thoughts out there.” In body, she is absent in the next two frames featuring a thought bubble, an Audacity icon, and two emoticons, representing her listening and editing her recorded voice. Her illustration echoed ways students set recorded voices apart from their bodies when mediated through digital sound, suggesting an ideological distance between themselves and their practices once mediated.

Students described these disembodied voices as strange, noting how their digitally mediated voices sounded differently than their inner voices. When listening to their recorded voices, students were disoriented by what they perceived as an incompatibility between a self they heard and a self they embodied. Beth likened listening to her “strange” audio recording to watching home videos. In that moment, she said, “you’re like ‘That’s what my voice is like? Uh’.” Beth’s comment highlighted two media, home videos and asynchronous audio projects, that replay out-of-time voices apart from bodies. All students commented that the sound of their voices, resonating in their bodies, shifted in sonic quality when digitally captured. Several students characterized this strangeness by pointing to differences in pitch and tone. For example, Megan likened her unfamiliar, recorded voice to “a six-year old boy...awkwardly deep, but not” and “nasally and annoying.” Her disgust was so great that she admitted, “I wouldn’t want to listen to my voice.”

Many students characterized their recorded voices by comparing them with their written voices. In this pairing, students used written voices as a measure for recorded voices, judging qualities of mediated voice by its presence of features favored in written discourse. Focusing on issues of arrangement, John described his mediated voice as “choppy,” “more systematic,” and “a bit less organized” as compared with his thoughts “coming down easier in writing.” As a result, he valued his written voice for having what he described as “more weight to it” than his audio recording. Anna also preferred her written voice for its confidence, describing her recorded, spoken voice as

a really girly voice which isn't a bad thing because I'm a girl, but. Um. But I think that's what I think about my voice. [In writing,] I feel like it's just like stronger and more like. It's clear. And people are able to understand what I'm trying to say better.

She later explained a “girly voice” was “soft” whereas her writing voice had “more of a punch behind” it, communicating her sense that her written voice was superior. Her confidence with her written voice highlighted her seasoned history with academic writing, especially in academic genres such as analysis that award assertiveness. In contrast, she perceived her recorded voice as weak or vulnerable.

Student characterizations of disembodiment and discomfort were accompanied by their sense of vulnerability. Early class workshop sessions revealed that most students felt uncomfortable as they recorded their voices, as confirmed by their distractive behavior in response. Students responded by recording in goofy voices or behaving dismissively (e.g. singing silly songs, making cartoon voices, commenting on the act of recording). In an

in-class workshop, students looked around awkwardly before recording, only smiling and leaning into microphones when no one was looking at them. Several students seemed so uncomfortable that they chose to do something else like surf the Internet for background music or click through Audacity's interface until the room was loud enough to hide their recording. Many students giggled after recording their voices, looking to their neighbors to see who had been watching them. Megan wrote in her final reflection that, "When I record my voice I tend to act goofy, if you will, I do not like to hear my voice so I tend to make jokes and laugh at myself." Megan's response was representative of all students. This vulnerability extended beyond recording sessions as participants communicated that they were unsure of their voices. Kathryn's "insecurity" with "the way my voice sounds" made her question if her audio revision "worked the way I wanted it to."

Students' feelings of vulnerability were also evident in their composing practices. Six of seven students composed their audio revisions by recording their voices in private spaces to isolate themselves from others. Students were uncomfortable recording their voices in public, only doing it on when Professor Amelie required them to experiment in class. After that, they recorded their voices in private, isolated rooms (e.g. copier closets, empty dorm rooms, study rooms in the library, empty hallways in another academic building). John's process illustration showed his frustration and discomfort working in the "noisy" class (see fig. 4) which he contrasted with his "alone" room—a glass front, study room on the third floor of the library—where he drew himself smiling while recording with his laptop and music (see fig. 7).

In illustrating students' sense of vulnerability with their recorded voices, one student's response stood out in our follow-up interview, providing a rich example of student responses to their voice in mediation. Rena was dismissive about her voice while we listened to her audio revision, repeatedly saying that parts of her project were "tacky." She described her voice as "tacky," "annoying," "bad," "awful," and "weird" throughout

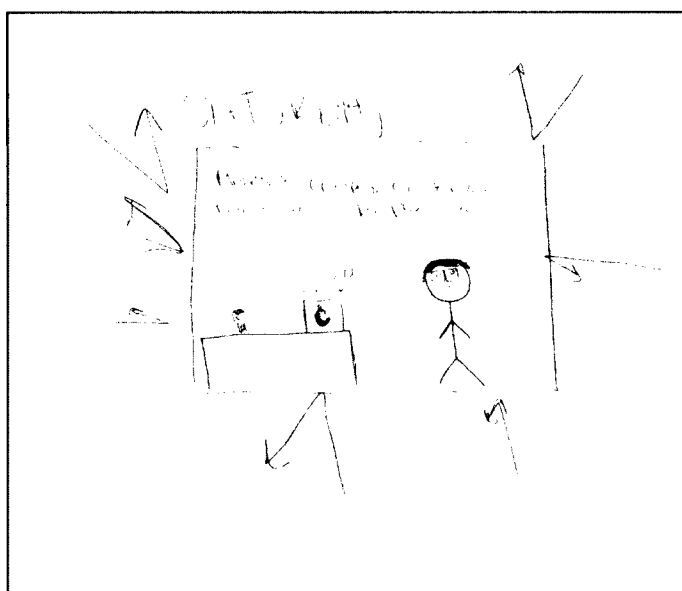


Fig. 7 John's Process Illustration, Frame 3

the listening session; further, her comments shifted from talking about composing choices to descriptions of her "tacky" voice. Before clicking play, Rena told me "I'm already going to tell you that I think the beginning is tacky, but I'm going to say that I think it's OK to be tacky. Cause I think it's supposed to be like...I think it is because it was out of my comfort zone that it feels that way." She referred to her performance of singing the songs in her head as "awful singing," repeating that her song "sounds bad" at least half a

dozen times. Throughout her narrative, I didn't respond to her self-deprecation other than to ask why she felt that way. When I questioned her about her sudden dislike of her voice, Rena explained her shift was "cause I'm actually showing that to you. Like then I can be imagining your reaction." She was noticeably uncomfortable, looking to see my reaction while her audio file played, explaining that her use of "tacky" referred to her embarrassment. She explained

You're not used to showing people your thoughts. And when I like did the sound experiment, it was on paper. So, you don't get to see other people's reactions to it. I'd like to show this to someone. And I'm sitting there listening to my own voice as more, like I guess I'm just more conscious of it.

Rena's vulnerability was reliant on my presence; she felt vulnerable and wanted me to respond with affirmation to her project. In contrast, she explained that she did not feel that way when reviewing her audio prior to our interview. Our exchange highlighted connections between students' self perceptions and audience perceptions of mediation. Like Rena, students felt vulnerable as digital sound separated a familiar inner voice from an unfamiliar recorded voice and could only be reconnected by affirming feedback from their audience.

### **Reconnecting with Audience**

Rena's concern with my response illustrated a common response as most students were unsure about their audio revisions until they witnessed audience responses of approval. While recording was a private act, students sought responses from others to gauge their success. Five of the seven student participants shared their audio revisions

with others prior to submission. They recalled these moments and their influence on composing choices. For example, Rena prepared for her audio revision by creating video logs (vlogs) of her riffing her revision. One day in class, she shared a vlog with a friend, clicking play and watching her friend carefully. When her friend laughed, Rena exhaled a bit and began smiling. In her follow-up interview, she explained how that moment helped her realize that she wanted her revision to be funny and not “dry and boring and whatever.” Her friend’s positive response confirmed her decision to sing the songs as if “in her head” rather than dubbing in original tracks of music. Others’ responses to their audio revisions influenced student decisions in composing and also their overall sense of whether or not their audio revisions were successful.

One student’s audio revision received striking reactions by others, and audience responses shaped group perceptions of this student’s project. Kathryn’s audio revision became something of legend as students referred back to it, without my prompting, in all eight follow-up interviews. An overwhelming response of approval by peers and Professor Amelie situated the praised text as a benchmark for determining audio revision standards. Anna—who admitted to not valuing her audio revision experience—called Kathryn’s audio “really good....it sounded like it meant a lot to her.” Students were amazed that Professor Amelie cried when Kathryn shared her project with the class, and they assumed this meant it was meaningful. Professor Amelie explained “it was kind of awesome...And it made me cry which was surprising.” Kathryn was surprised by her professor’s response as well, and suggested she

felt like I kind of accomplished my mission because it made me cry when I was writing it, sort of. Not that I was intending for people to cry but knowing that I conveyed the emotion behind it. I was happy with the final product because I felt. I felt. I dunno, content with it. Like I said the response I got from the other people kind of. Just for the good closure I guess.

Kathryn's sense of closure came through affective responses that mirrored hers. Kathryn shared that she was unsure whether she conveyed her message and emotion prior to sharing with others. Once Susan, her first listener, liked it, Kathryn "felt good about it." She valued her audio revision more than other projects in the class because of ways others responded, indicated also in her process illustration (see fig. 6). Her sense of vulnerability was alleviated when her audience recognized the worth of audio revision, and she sensed that they connected with her message.

Many students connected with their audience by using music, which they characterized as an important tool for enhancing vocal qualities and conveying emotion. Several students talked about music as a way of creating mood and illuminating a writer-speaker's words to connect the audience with him/her. Two of these students, drawing from their histories as musicians, characterized music as a unique modality for bridging writer-speaker and audience. Beth explained her choice to use subdued background singers gave "strength and lightness to the subject...[making] the words sound acceptable and something people can agree with." In this way, music established her piece's mood, becoming part of the audio revision's ethos and adding authority and connectivity to her words. John also used music to "create mood and give an example" of the value of music

in his life. In his audio revision, he said to his listener that he will “pause my talking for a second at that part, so you could experience the song.” Although they both use music to connect with audience, John situated his music differently than Beth. Beth’s music was a background for her message. In contrast, John’s music was foregrounded and meant to channel his listener’s opportunity for communion with his audio, God, and him. He argued that music made “the listener more acquainted with who you are.”

Students sought audience responses to gauge whether or not “who they are” came through, hoping to convey their inner thoughts and emotions. Often, these connections were recognized by audiences through verbal features that were chaotic, raw representations of thought. John and Rena talked about their imperfections, intonation, inflections, and pitch as means for communicating a sense of their identity to audience. John explained that technology captured “a sense of where you’re from...they can hear how you’re talking...and they can hear and grasp what we’re feeling and what’s important based on if we’re speaking faster or if we’re speaking slower or making emphasis.” Many spoke of unpolished, mediated voices as conveying self. Rena’s stream of consciousness approach was her attempt to marry form with content (i.e. disorganized thoughts), creating accessibility for audience. She wrote, “I wanted to bring my audience in by letting them hear my thoughts, as they came from me.” Rena aimed that her voice would be digitally and audibly patterned after her associative thinking patterns in order to function as a medium for audience access.

Student attempts to connect with audience varied little among participants, but one student stood out in her lack any concern or sense of audience as relevant to her



audio revision. While most described music and digital voice as a means for connecting, one student chose not to sense any audience for her composition. Mikala, self-declared techno-phobe, failed to identify any concern for audience. She was distracted by technology that she described as mechanical, awkward, and robotic. Mikala described her recording as seeing

a computer in front of me, not an audience and then I think that part took over instead of me trying to talk to an audience. Because when I'm usually talking, I think. Or writing. I feel like I'm making a speech. It has to be good, and, so I add some expression into it. But me and computers, yeah, have a love hate relationship. And we just don't.

Mikala failed to recognize any audience beyond technical objects present in her recording session. In response, she chose not to try to connect with an audience through expressive features in sound, simply reciting a brief narrative. Her perspective contrasted with others' use of music or voice to personalize their audio revisions. Her reference to a "love hate relationship" intertextually refers back to her initial interview which outlined her history with technology and perceptions of its limited affordances. Recognizing a hyperpresence of mediation, she chose not to alter her delivery because she didn't perceive her voice as connecting with a living audience.

### **Evolutions in Perceptions**

#### **Characterizing Material Significance**

Students' perceptions of relationships between writing, speech, and digital sound evolved as they engaged with unfamiliar modalities. Their encounters with their audio

revision project prompted shifts in how they characterized modalities. Written-aural revisions heightened student awareness of materiality in mediation, especially in students' disorientation with their digitally reproduced voices. As a result, students were more intentional and articulate about ways different modalities related within their composing processes. In her cover letter, Megan explained that written portions of Professor Amelie's assignment helped her, "become more aware of the less noticeable characteristics and consequences of music and sound." Megan's recognition that writing helped her understand sound represented a shift from her earlier characterizations where writing and speech were unrelated modalities. John's cover letter also reflected a new found relationship between writing and speaking. He wrote,

Due to this experiment, my thoughts on writing and speaking have been a little bit defined separately but they've also been connected a lot too to writing as a way of organizing your thoughts, writing as a way of expressing your thoughts but then speaking as a way of portraying those thoughts to people in a better way than writing can.

John's description of how writing and speech work together reflected his perception of modal affordances (e.g. writing for organization, speaking for portrayal) in ways that are dependent on one another for distinctions. Other student cover letters reflected a growing awareness of modal affordances and pointed to ways they shaped their writing style which had evolved to reflect features of aurality. For example, Kathryn became more aware of her formal training in structures of written discourse, and, as a result of her audio revision, she practiced "'loosening up' my writing by keeping the sound aspect in

mind.” Mikala also aimed to write with an auditory sensibility, indicating that her writing was growing “less robotic” and “more natural.”

Students recognized differences in composing materialities which shaped their latter perspectives on composing practices. Digital sound functioned as a novel composing medium, which afforded students a means of communicating in ways they had not in writing. As a result, they began to think about textual features in sound when compared with written textual features, and this exercise facilitated new ideas about revision. Rena considered her audio revision “really kind of cool” as a way of reframing her writing. In our follow-up interview, she characterized “revision as tweaking it to make it fit into a different environment. You know like. Revision to me was like correcting it. Not making it fit into a different perspective. I thought it was really cool.” Fitting a different perspective translated into her making adjustments in word choice, sentence structures, and syntactic rhythm to create texts that were more accessible to audience. These kinds of adjustments, shifting written discourse into digital audio, invited students to consider ways that revision might influence delivery. This was Professor Amelie’s intent in her audio revision assignment design. In our follow-up interview, she said, “Like with undergraduates they don’t often get past a polishing idea of what revision is. So, the whole sound thing for me when I was first thinking about it was about, getting them to really reframe, rearrange, recast whatever they had initially written.” In response, many students reflected a more open, holistic attitude of revision following the written-aural remediation. For example, Kathryn wrote that the process, “soft[ened] my view of the previously dreaded word ‘revision.’”

### **Characterizing Personal Significance**

Students also reframed their general attitudes towards writing classes, finding their voices in unconventional forms of composing. They described attitudes towards writing by contrasting Professor Amelie's written-aural assignments with their histories composing in English classes that required "proper grammar" that was "perfect" (Kathryn). Instead, Professor Amelie's approach provided what Mikala called "freedom to do what we want with our writing." Students characterized projects in her class as a bit "more fuzzy" and not "having as many guidelines." Her audio revision assignment did have clear guidelines (see appendix D); however, students didn't perceive these as guidelines when compared with typical criteria from their histories with writing. Repeatedly, students characterized their audio revisions as "fun" and "cool," looking back on their projects with a strong sense ownership. In her follow-up interview, Beth found her audio revision to be a meaningful experience, revising her earlier comments about only liking analysis. She said that her audio revision was her favorite piece in the class, highlighting the way "the recording and music made it shine" while saying that she "really enjoyed writing it." Like many others, Beth used the term writing when trying to capture her process in semiotic remediation and—in name—situated it as serious and appropriate in the space of a composition class. Written-aural texts provided freedom which seemed to invite students to experiment with their writing style and voice. John described his audible voice as more intimate, and he claimed that it helped him with his writing, "developing my own personal voice" and "finding a style that feels like me."

Students used audio revisions to reflect on past experiences in new, often cathartic

ways. Students who composed audio revisions that captured narratives from their pasts were able to encounter and repurpose them from their present perspectives. Kathryn's audio revision about a childhood move that connected with a Christmas song was a reflective means through which she achieved a kind of "emotional release." Likewise, Mikala explained that her narrative, about her grandfather teaching her how to whistle, "brought back so many precious memories" that it helped her "find her voice as a writer." Anna's audio revision functioned to help her "release" emotions as well by constructing social drama between events featured in her audio and its unresolved presence in her life. Anna's used her audio revision as a platform to rant about her opinions on her peers's unsubstantiated political views. She explained to me in our follow-up interview that she

realized in that class and in my UNIV 111 class, I just needed to shut up and never say anything. And when I started doing that, I was a lot more relaxed and I was able to just check out. But then I also realized after that there is a fine line between like participation and completely checking out.

In our interview, she took time to explain in more detail how her ideas were evolving as a result of her audio revision. She used our examination of her text as an invitation to rationalize her past responses to her peers, achieving some closure with her frustrations in her interview that she didn't have in her audio revision.

Through remediation, students turned back towards themselves as objects of study, reconsidering past selves aside their future selves. Two students in particular were influenced by social interactions surrounding their audio revision projects. In response, they reflected on ways these experiences might inform decisions about their futures.

John recalled a Skype conversation with a distant friend that he had while working on his audio revision in which he experienced a heightened awareness of his career path.

Through the act of creating his audio revision about ways music channeled his relationship with God, John realized his Music Education major was ill fitting and decided to change his focus to music ministry. He explained, "And I think that's been part of the reason is that I've been thinking about it a lot with this project." He calls his audio revision a "reflection," and says, "So, I think this part of the reflection itself, kind of guided my mind a little bit towards the way I should be thinking in terms of my future."

Kathryn had a similar experience as a result of her remediation. For Kathryn, her audio revision was so successfully received by others that she found confidence in her ability to compose. She claimed in her final reflection that, "this semester has been revolutionary not only in my writing, but in my life as well, developing my awareness to reflect and even deciding my major for right now. " The same week that Kathryn submitted her final reflection, she declared English as her major.

In studying data related to students' self-awareness, this research study provided a meta-level of remediation through student artifacts and perceptions that were remediated in my research methods. I transcribed audible interviews into a written form, scanned student pencil illustrations into digital pixel graphics, and remediated student insights through coding, memoing, and follow-up interviews. These students were hypersensitive to the fact that their thoughts and ideas were being re-purposed through the act of research, and they were invested in co-creating knowledge by critically examining their own ideas in remediation. Several explained their role as a research participant

functioned as a catalyst for developing their awareness about attitudes and practices. Megan explained in her second interview that she “never really thought about those things before until you asked them.” I found that these participants were particularly invested in co-creating knowledge for my study, extending interviews by questioning me about what I had learned from my data.

Students exhibited a self-efficacy as research participants and self-awareness as students of written-aural composing. In a follow-up interview, Professor Amelie pointed to instances when the seven study participants “facilitated discussion” saying, “those conversations felt more productive than they have in the past.” Student cover letters also articulated a growing reflexivity about modal affordances and composing practices. Of course, these cover letters were submitted as a portion of their project grade and could be construed as a performance of reflexivity, especially among students adept at meeting instructor expectations; however, Professor Amelie’s perception of emerging student reflexivity lent validity to their sincerity. She argued that these seven student participants exhibited more awareness than students in the past. She explained, “I think that research empowered some of them. I think that being researched has helped me to articulate some stuff about revision that I don’t think that I ever particularly related to myself.” Student participants also articulated different ideas about revision in our interviews following submission of their projects. Overall, their insights at the study’s end revealed an evolution in their perceptions of writing, speech, and digital sound. Students revised characterizations of semiotic resources (e.g. materials, modes, bodies) involved in

composing their audio revision, revealing an evolution in student ideas about material and social dimensions of composition.

### **Conclusion**

Students struggled in the beginning in their approaches to written-aural remediation, negotiating unfamiliar technologies and materialities of digital sound. In response, they relied on their familiarity with written discourse to replicate familiar practices and concepts from their histories in English classes, speaking about relationships between writing and speech as if their ideas were generally accepted beliefs. These students were less socialized to perceive digital audio affordances. Their perceptions of sound and technology varied when situated in individual histories with sound and technology. They recognized writing and speech as common forms of communication within an English class, but they reacted in varied ways with respect to digital audio, especially when they failed to identify with their own recorded presence. Audience responses helped locate many composers as they felt affirmed in others' recognition of their project's value. In response, students communicated evolutions in their material and modal perceptions after having made their composing processes strange through audio revisions. Their experiences remediating written text into digital sound provided more than a way of repurposing materials. Students also re-purposed various social relationships and self-perceptions in their processes of remediation.



## **CHAPTER FIVE**

### **ANALYSIS**

#### **Overview**

Building from findings in the previous chapter, I argue in this chapter that semiotic remediation involves a process whereby students negotiate between moments of discord and moments of recognition when understanding and using signs. By discord and recognition, I refer to students' comfort with or distance from tools, processes, genres, and technologies involved in remediated composing. Concepts for this analysis chapter are drawn from student metacognitive discourse about their experiences and perceptions. This chapter examines those moments of reflection to develop concepts that capture student perceptions and attitudes of composing with resources that were simultaneously social, material, and historical. Student discourse embodies student learning, revealing their evolving understanding and use of resources in completing a required task of remediating familiar written discourse into unfamiliar digital sound. Their characterizations of composing with unfamiliar semiotic resources reveal how they conceive of and learn to negotiate novel materialities for communication. I analyze their language to understand how those experiences highlighted ways their bodies interacted with outside semiotic resources through an emphasis on relationships between perception, materials, and cognition. Further, in this chapter, I consider how student perceptions are situated in multiple contexts as they negotiate between responses to signs in their immediate environment and a sign's potential significance in other contexts from their experiences (e.g. histories of use).

What I wish to do with this chapter is expand studies of material remediation to account for the value of student reflection in demonstrating the dialogic nature of sign-making in situated practices. The previous chapter revealed ways that students drew from their histories, practices, and attitudes prior to composition II when characterizing written and aural modalities, reflecting their understandings of larger social, cultural, and institutional systems of value. In this study, students identified the semiotic value of signs evoked in their task of written-aural remediation through and including their role as research participants. Student understandings revealed ongoing negotiations with present social interactions, material affordances, and historic of use. Students were challenged by the task of remediating writing into sound in transferring their knowledge of composing from one modality into another, struggling to connect materials they had conceptualized separately. These challenges were further exacerbated by student's histories of understanding cultural values for textual production in a writing course. The semiotic significance of resources and practices emerged in these student balancing acts within larger "regimes of value—in ideational (and ideological) systems through which relevant aspects of semiotic form become identifiable for the social agents who draw upon them" (Irvine 238).

In this chapter, I will address how semiotic remediation in this study involved connecting comfortable sign systems and practices with unfamiliar forms of composing through moments of discord and resolution that were material, cultural, and social, which ultimately contributed to participants's development of reflexivity outwardly and inwardly. I explain this process through an examination of three key concepts that

emerged from findings categories while characterizing unique instances of those concepts. In doing so, this chapter will develop a theory that captures the significance of semiotic remediation as a means to study student composing and learning practices. In each subsection of this chapter, I will define each concept, their properties, conditions under which the concept emerged and theoretical implications of considering this concept in light of semiotic remediation.

### **Dissonance Between Semiotic Resources**

Students initially exhibited moments of ambiguity and frustration when faced with this unfamiliar task of written-aural remediation. Students characterized these experiences in language that indicated their unfamiliarity, discomfort, or distrust with unfamiliar materials that they were using. In describing their relationship with those resources, I use the term dissonance to characterize this pattern of students' responses that described a range of discordant materials, practices, and attitudes. In doing so, I am building from a sonic understanding of dissonance as sounds that are marked by discordant chords that are perceived as harsh and unresolved. In extending this metaphor, I emphasize students' embodied responses to materials used in remediation. I also wish to capitalize on ways that dissonance is used in music to describe a *pairing* of sounds that are discordant. In this study, students characterized instances of discord that were material, cultural, and social between their written-aural practices and their previous experiences. In this remediation task, students encountered semiotic systems and practices that were discordant with their past experiences and/or present attitudes and practices, catalyzed by the introduction of digital sound as a means for composing. In

using the term dissonance rather than cacophonous, I emphasize materials such as digital sound that were not perceived as harsh until students *paired* them against other modes for expression, such as writing. Student discourse exhibited dissonance when they expressed resistance and/or distancing from materials and practices they encountered during written-aural remediations. For example, students expressed discord between paired histories and practices that were dissonant as they negotiated their histories with academic writing with their practices using digital sound in Composition II.

Students repeatedly characterized discord between their composing histories and current practices. These participants were well attuned to crafting formal, written discourse in ways that had ensured their work would be acceptable by authority figures who represented larger cultural values for academic writing. In early interviews, students' ideas about writing were influenced by their histories in AP courses in their 1) preference for formal genres of writing, 2) choice of fast writing over revision, and 3) confidence producing formulaic writing that would get an "A." Student histories with formal genres, such as literary analysis, provided them no guidance when faced with composing with digital audio. Therefore, a task of creating audio revisions displaced participants, creating discord between ways they had learned to perform in written, academic discourse and unfamiliar practices for composing in digital sound, in addition to novel sign-making tools. Materially, this meant that many students were not familiar with digital editing software, sound tracks, and sound dynamics, as well as recognizing software-specific signs, such as editing icons, required to manipulate Audacity. When replaying audio revisions during their follow-up interviews, many students framed their responses saying,

“I meant to include...but I was unable to because I didn’t know how to...” All participants communicated some level of discontent with their completed audio revisions when their product failed to match their goals for their audio revision. In doing so, they discursively paired a completed revision with an imagined revision in a comparison that reveals a material dissonance.

In addition to dissonant materials, students also communicated that an audio revision was an unfamiliar genre for them or at least unfamiliar when situated in a world of college composition classes. While I have used the term mediation to refer primarily to technologies that intercede between a composer and a material representation, I also recognize that genres function as a form of mediation, shaping possibilities for discourse. Anis Bawarshi writes, “genres are rhetorical ecosystems” that mediate our contexts, ways we interact, and “enact social practices” (80). Student discourse about composing with sound revealed that they sensed a disconnect between academic ways of showing their learning (i.e. writing) and alternative ways that were fun (i.e. digital sound), especially in the environment of a college composition class. Most students perceived composing with sound as a pedagogical effort to keep their writing class interesting; however, their audio revision demanded their serious attention because they all valued its grade dependent nature. Meanwhile, they struggled to articulate these features as a form. These struggles, material and conceptual, influenced their own sense of discord between their success as composers of writing and their floundering as composers of sound. I recognize this discord as another kind of dissonance, one that highlights that genres function as signs with meanings that are socio-culturally shaped.

Students draw from their histories when encountering genres, especially in the writing course where genre features have been the subject of literature, analysis, and rhetorical modes of writing. In this study, students' perceptions serve as a source for comparison when encountering new composing practices, textual features, and relationships with audience and self. Students continued to shape their perceptions of audio revision as a genre in the situated interactions that occurred in their class setting with their teacher and other students. Charles Bazerman writes that genres are more than a collection of recognizable features. He writes that genres "give shape to social activity" ("Speech Acts," 317). In this description, Bazerman highlights how genres are dynamic socio-cultural signs that evolve when individuals use them to communicate with one another in order to accomplish meaningful tasks. In my findings, I learned that students perceived that audio revision as a form did not refer to a familiar genre from their histories, and they only gained meaning as a genre in situated use in Composition II. Outside of this course, the phrase "audio revision" did not draw from larger systems with universal guidelines for language use and expectations. If anything, the term revision created discord between students' histories with revision as cursory proofreading and their task of remediating writing into sound. Students questioned Professor Amelie about assignment expectations, communicating their frustrations in understanding audio revision features. They asked questions such as, "How long should my audio revision be?" or "Do you think 54 seconds is enough?" These questions drew from students' histories where length was a measurable feature of genres such as timed writing exercises, illustrating a discordant pairing of textual features. For these students, semiotic

remediation located them within dissonant activity systems (i.e. writing and digital audio) whose cultural and discursive features were incongruent and oftentimes unclear, exacerbated by their strong sense that texts produced in a writing class were formulaic and academic.

As many genre theorists point out, genres do more than shape texts, genres shape composers by affording desires and actions in a combination of material, cultural, and social features. Anis Bawarshi argues that genres are “discursive and ideological sites of action” that provide writers agency in adopting or resisting activities, relations, and subjectivities bound up in a genre’s features (54). If genres invent the writer, then students whose histories are deeply entrenched in formulaic, academic writing have developed a subjectivity as a writer that is closely tied with the kinds of precise, text-centered ideologies that support AP-like curricula. For students in Composition II, digital sound presented them with activities and texts that they perceived as less stable than genres such as literary analysis. Further, this remediation task required that they use unfamiliar, material resources of digital sound that had an impact on their perception of their subjectivity as composers. For example, students could no longer rely on projecting a polished subjectivity shaped by careful syntax and sophisticated diction, making it difficult for them to sense their presence in the composing activity.

Students perceived their recorded voices as discordant with their inner voices and/or imagined voices when listening to audio files. They communicated what I characterize as sense of dissonance when they explained that their voices sounded “strange.” Repeatedly, they said they sounded differently in recordings than they did in in

their heads. Participants were unsettled, as evidenced in their bodily gestures and postures that seemed to rejected this discord. In workshops, several participants dramatically removed their headphones in the middle of audio playback, refusing to listen to their strange voices. Some refused to playback their recordings, choosing to delete drafts of sound files rather than listen to them. Their recorded voices were so dissonant with their inner voices that students struggled to perceive themselves in the mediation.

### **Reflecting a Sense of Disembodiment**

Students often characterized these dissonant moments by discursively separating their bodies from their minds, indicating a disconnect between their material experiences and psychological responses. Repeatedly, students communicated their perceptions through metacognitive discourse in which they placed thoughts and voices apart from their bodies (e.g. “my words came out”). To describe the nature of this instance of dissonance, I use the term disembodiment. In calling this disembodiment, I aim to capture how this separation reflects a feeling that student physical experiences fail to sync with their psychological understandings. Their aural perception of their recorded voices caused such a sense of disorientation that they metaphorically and linguistically divided their embodied sense of self from their psychological sense of self (i.e. “that doesn’t sound like me”). Underlying my use of the term disembodiment is my assumption that learning involves a relationship between physical, sensory experiences and cognitive, psychological understandings, a point I addressed earlier in chapter one. Student discourse reveals embodied perceptions of their remediated voices to reflect their



potential for a perceptive duality of presence, when the material and social are at once present and separate.

Students communicated a sense of their disembodiment when they reflected their distrust as listening bodies to their pre-recorded voices in digital sound. Students characterized their voices apart from their bodies capturing instances of dissonance in their perceived co-presence of a self situated in a different time. Digital sound, as an audible inscription technology, presents a challenge to students who are accustomed to experiencing their voices as resonating in live, temporal moments of speaking such as hearing and feeling one's voice during live speech. This disembodiment is a feature of digital sound according to Frances Dyson. She writes, "recorded sound cannot claim the so-called authenticity of direct, live transmission, since the recording is no longer tied to the here and now of the sonic event" (143). Student responses to disliking their recorded voices illustrate what Dyson calls a "troubling moment" of body effects in which the "organic whole" of aurality (143) becomes virtually embodied, creating discord between a recording and a listening body. In my study, students characterized their recorded voices with more pejorative, distant language. These descriptions sharply contrasted with the endearing language students used to characterize their peer's audio projects that they perceived as "natural" or "personal" even with their verbal stumbles and idiosyncrasies. I find it significant that, at some point in this study, all student participants communicated a sense of their own mind-body bifurcation, yet no audience/listener ever discursively separated another student's recorded voice from his/her body, instead recognizing peer recorded voices as a true representation of their inner selves. This pattern suggests that

instances of disembodiment were unique in students' perceptions of self when mediated through digital sound.

When student language suggested instances of disembodied listening, they were recognizing a confluence of voices present in their audio recording: a recorded past self, a present listening self, and an anticipated future audience. This co-presence of voices created a bit of a crisis for themselves as listener who was responding to their own recorded sound while simultaneously positioned in all times and identities. This phenomenon is perhaps best understood by reconsidering Bakhtin's notion of utterance in light of student recordings. Adapt Bakhtin's concept of heteroglossia for digital sound, I argue that authentic environments of student utterances [i.e. digital audio recording] are "dialogized heteroglossia" (272), at once drawing from histories of cultural assignments, immediate social contexts, and individual concrete accounts. Aural recordings are transparently heteroglossic when students recognize—or at least are disoriented by—the influence of time on remediated speech. When listening back to these sound utterances, students are faced with sound bites which they must resolve as listeners with knowledge of ways their various roles (e.g. subject, student, listener) are projected and complicated in their composition. In this study, these students had such acute abilities of performing and recognizing their "academic voices" (i.e. using formulaic discourse and proper grammar) that a task of remediating writing into digital sound challenged their ability to reconcile self with their more casual, aural voice. This conflict was complicated by Professor Amelie's models of digital sound that were edgy, remixed, and casual as were assignment guidelines in "writing for the ear" that dictated shorter sentences and simple

syntax. Student reflections about their audio projects, often citing these guidelines or examples, revealed this dissonance between their perceptions of their roles as a student, past and present.

In follow-up listening sessions, students described instances of disembodiment when they responded to digital inscriptions of their voices<sup>2</sup>. Digital audio is an exemplary resource of what Walter Ong's referred to as secondary orality, an orality dependent on inscription technologies. One feature of secondary orality that pervades today's new media is our ability to manipulate and archive speech, suggesting an evolution to a kind of tertiary form of orality. Digital sound shifts our perception of voices when they are captured and replayed in materials that provide infinite playback access to the past as if still present. Frances Dyson writes that virtual audio is, "'spatialized' sound" whereby digital sounds signaled an atemporal presence, creating a sound space where voices exists in timeless ways (138). And in the listening to virtual audio, technology admits "the listening body to the interface" as well as functions as a sound source with an "independent, autonomous identity" (139). In this study, a student's own recorded voice in virtual audio fostered a sense of disembodiment as their spatialized voices, independent and autonomous, interacted with their listening bodies. Such disembodiment was so uncomfortable that most students expressed vulnerability in moments of encountering their recorded voices.

Students responded to their perceptions of disembodiment by seeking an audience to help them find resolution between their mediated voices and inner voices. In these

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<sup>2</sup> It is important to note that moments of disembodiment potentially occurred during recording and playback sessions during composing processes; however, my research design prohibited me from capturing these perceived moments. As a result, potential early moments of disembodiment were possible but elusive.

social interactions, a listener's verbal responses could reassure a composer of their presence. Students seemed to need other's affirmation in order to reconnect their digital voices with body and mind. One student's response in a follow-up interview best exemplified this social interaction. Rena's communicated her discomfort when hearing her audio revision through redundant characterizations of her voice as "tacky," "annoying," and much different than the "way I speak." In the height of her discomfort, she pointed out that my presence made it more difficult for her to be okay with her project. Initially, I chose not to respond to her comments of displeasure and until I recognized that, she grew more frantic. Finally, I commented that "her clever wit" really came through in her recorded audio. While I gave this affirmation, I gestured to her sitting in a chair across from me. Instantly, she relaxed and ceased denigrating her recorded voice. It was as if I had reconnected her present body with the recorded voice, and her sense of disembodiment seemed momentarily alleviated because of my response. While Rena's experience was an exceptional illustration of the role of social interaction in resolving perceptions of disembodiment, other students shared similar experiences finding resolution between discordant recorded and inner voices through affirmative audience responses. Discursively, these audience acknowledgements seemed to briefly reconnect asynchronous, digital voices with live, inner voices.

Students who had heightened anxieties about using unfamiliar technologies reacted more dramatically to hearing their recorded voices because they recognized a disconnect between their design intentions and their inability to replicate those through technology. Technophobic students, Mikala and Megan, explained that they didn't sense

their personal touch (i.e. “voice”) in their audio project. Their anxiety was typically exhibited through in-class performances of goofy or disruptive behavior. Some examples of exaggerated responses included Mikala or Megan recording in a silly voice, speaking too loudly when recording, or jerking off headphones when relistening to their recorded voices. Their behaviors during in-class workshops seemed geared towards eliciting responses from their peers. When a peer responded to this social drama, their response reminded Mikala and Megan of their presence especially when peers approved of their silly antics. For example, when peers laughed at Megan’s acting out, they seemed to acknowledge that her humorous personality was still present. As a result, both technophobes relaxed in their embodied responses to uncomfortable tasks, attempting to record again but with a serious voice, for example.

### **Remediating Resources in Semiotic Synaesthesia**

In order to approach remediating writing into digital sound, students turned to what they knew by evoking familiar semiotic resources from writing to help them complete this task. In doing so, students blended practices and perceptions of writing and sound, bringing different signs together and blurring sensory distinctions as a method of understanding and shaping unfamiliar resources. Materially, students employed a range of visual-spatial resources used in writing practices such as outlining, drafting, and annotating to shape the outcome of their digital sound projects. Conceptually, they framed their discourse about perceptions of digital sound using language associated with perceivable features of writing. In doing so, students remediated modal resources with one another, shaping signs in what I call a practice of semiotic synaesthesia.

Synaesthesia, as a term, refers to “a sensory experience elicited by a stimulus in a different sensory modality, as when particular sounds evoke sensations of colour” (“synaesthesia”). In the context of this study, I use the phrase semiotic synaesthesia to characterize instances when students describe or approach one modality through discursively employing features or practices from another modality. Vygotsky calls this learning through “categorical rather than isolated perceptions” whereby users assimilate unfamiliar tools with familiar ones (33). In the case of this study, students negotiated and shaped digital sound by evoking their framework of practices and understandings of writing features. These students engaged in what I call semiotic synaesthesia when they materially and conceptually repurposed and shaped digital sound affordances through their perceptions of it as a form of writing. In doing so, students remediated their historical and cultural sensory perceptions of modalities as a strategy for repurposing their written text into an audible form. Through these moments of semiotic synaesthesia, students did more than sequentially remediate modalities; they simultaneously blended situational practices and semiotic signs from multiple modalities in an attempt to resolve dissonant sign-systems.

Students remediated modalities by bridging practices from written discourse with composing in digital audio, exhibiting a material form of semiotic synaesthesia. Primarily, student practices involved using visual-spatial activities to shape perceptions of their audio revisions. In doing so, students relied on material resources (e.g. outlining, drafting) that they were comfortable using in order to ease their discomfort working with audible resources. For example, Kathryn explained that she read her writing aloud as she

revised as a way of “seeing how it sounds,” admitting that she was uncomfortable relying solely on her auditory sensibilities. Her decision to vocalize her written text emphasized a discord between her perceptions of her written and aural texts, which required that she process her sounds first through writing. Kathryn’s description of her process revealed that she blended images of alphabetic text on a screen with her embodied voice to gain a full “picture” of her project’s character. Even after completing her project, she continued to characterize sound as something that could be “seen,” discursively defining sound, which she perceived as elusive, through a familiar body of alphabetic signs. This tendency to understand sound through visual signs was evident in most student discourse, suggesting that sight was a more dominant sense for student perception than hearing. Other students described visual-spatial strategies when talking about their remediation processes (e.g. John talks about “zooming in”). In practice, many students needed to outline, map, or draft their revisions in order to “see” it prior to recording their sound files. They also anticipated that audio revisions would elicit visual responses from their listeners, hoping that their sounds would create mental images to connect listeners with their messages. In this way, students used resources they sensed in writing to approach and understand aural composition, likely as a result of their histories of practice.

In addition to material practices, participants resolved cognitive discord between modalities and/or genres by drawing writing and sound discursively together through a conceptual semiotic synaesthesia. By “conceptual semiotic synaesthesia,” I mean that participants used language common to one modality in order to capture their evolving sense of features in a different modality. As in material practice, participants in this study

drew from their strong histories with writing by making intertextual references that used language associated with writing to characterize sound. In initial interviews and early class discussions, students struggled to find unique terminology to characterize digital sound. In response, participants conceptualized sound through familiar visual metaphors that shaped their perceptions of sound features. Even Professor Amelie drew from one sense to capture features of another. In one lesson, she chose a RadioLab podcast about color as a model text, framing audio composition as type of “illustrating.” In another lesson, Professor Amelie asked students the following: “Can you picture an image of this song?” She also prompted them to “show your sounds through pictures.” In doing so, she shaped their aural sensory experience through a modality other than sound, encouraging them to repurpose one modality’s sensibilities in order to understand another. This instructional discourse is semiotic in its material, cultural, and historic significance, framing visual sensitivity to audio texts by relying on language common to the culture of teachers of writing and to these students (e.g. “showing not telling”). In using this language, Professor Amelie tapped into students’ histories with writing signs and framed their perceptions of novel signs, exhibiting an instance of semiotic synaesthesia.

These instances of semiotic synaesthesia support existing arguments opposed to orality and literacy divide theories (Gee, McCorkle, Palmeri, Welch) by providing evidence of a symbiotic relationship between speech and writing. Students remediated modalities simultaneously rather than linearly when they engaged in blending or framing one modality through perceptions of another. As a result, students defined and shaped features of new semiotic resources through discursive acts that drew from histories and



understanding. This discourse further revealed ways that semiotic resources were productive for learning and resolving perceptions of dissonance.

### **Resonance with Semiotic Resources**

Student perceptions and practices revealed that their understandings of familiar semiotic resources had meanings that were situated historically, culturally, and socially. Students could connect with practices, materials, and bodies in moments that were fulfilling when they could rely on their experience and understanding, creating resonance with semiotic resources. Resonance, as a term, refers to audible sounds perceived as “deep, full, and reverberating” and is often used as a metaphor to describe something that can evoke lasting images, memories, and emotions (“resonance”). I simultaneously evoke resonance as a concept that points to 1) material reverberation, sounds resonating in chambers of and between sounding bodies upon vocalization, and 2) metaphorical reverberation, practices and values that participants recognize as deep, full, and lasting. While sounds are traditionally associated with resonance, other modalities resonate when situated experiences reverberate with participants’s histories with writing, speech, or digital sound. In this way, I use the term resonance to frame a concept that refers to student perceptions of resources that are “deep, full, or reverberating.” Students provided examples of resonance through discourse that described semiotic resources as productive, helping them achieve depth in their remediated texts.

### **Perceiving Semiotic Resources as Resonant**

As revealed in my findings, students connected with aspects of their audio revision differently in their descriptions of modalities, composing histories, and

composing practices. These affective moments illustrated students' varied perceptions of signs and abilities to use them in remediation. Earlier in chapter one of this dissertation, I explained how James Gibson's concepts of perception and affordance framed a process through which composers perceive an object's properties in specific environments. In my study, individuals perceived resources that resonated in so much as their situated practices, attitudes, and histories connected with signs during remediation processes. These resources were then perceived as available for students to use. For example, students characterized music, deeply situated in social and cultural systems of value, as a material strongly tied to emotions and memories. Many participants—Kathryn, John, Mikala, Megan, Rena, and Beth—chose to use music as a mode for emotive expression in their audio revisions, anticipating its potential to resonate with their histories and cultural worlds. They employed music by importing background tracks and recording themselves singing. Several students also included in their process illustrations sketches of music notes floating around their heads in their composing environments (see fig. 6). Finally, many focused their written-audio revision topics around music that was meaningful in their lives. Music was a modality that sonically reverberated, but students also recognized its role in their histories and experiences. In doing so, they signified that music was a resource with semiotic significance that was deeply meaningful, triggering narratives and reflections that connected sounds with students' histories and ideas.

Students' collective use of music in audio revisions reflected broader understandings of its social semiotic significance and potential for resonating with audience to elicit affective responses. Participants characterized music as a mode that was

recognizable and universal, conveying clarity and emotion when used in an audio text. Many students valued music for its ability to reconnect them with their pasts, especially valuing songs that reminded them of lasting memories. Their decisions to include these meaningful songs in their narratives further reflected their awareness of music's potential to foster aural resonance in their audio revision. For example, Kathryn layered her narrative about a traumatic move during middle school with sound bites of Judy Garland's song "Have Yourself a Merry Little Christmas." In doing so, she composed a "deep and full" audio revision that reflected how music resonated with her past and her audience who could connect with this iconic song in her use of recognizable semiotic resources.

Student-musicians exhibited an acute understanding of ways that music resonates within specific cultures, maximizing their use of music to create semiotically rich environments. These participants communicated through written rationales and research interviews how music functioned as a resource for evoking affective responses to their audio revisions. Both Beth and John described musical features such as dynamics, tone, and lyrics that might impact others' perceptions of their revisions. Beth, an orchestral musician, crafted her audio soundscape by choosing low pitches and somber tones from instrumental and choral tracks to create an atmosphere that resonates with silence. Her choices revealed cultural ideas she had internalized about the nature of a sonic environment, materially crafting a sound that resonated with cultural expectations for silence. John also perceived music as a resource that he could use in his audio revision, influenced by his history as a music worship leader in church. For John, music was a

sensory channel that afforded him a means of achieving spiritual resonance with God. To capture that essence, John incorporated music in interludes between reflections, purposefully foregrounding songs that he found meaningful, and inviting his audience to “listen to this song and reflect” ways music can connect them (i.e. his listeners) with God. Both students’ uses of music reflected their prior experience with music as a semiotic resource and their situated understanding of its potential (i.e. as soundscape or sensory channel) to create a full and resonating experience for others who audibly enter their projects’ environments.

### **Connecting Resources in Social Interactions**

Many students only recognized the value of their audio revisions after receiving a response from someone else (e.g. peer or Professor Amelie). These responses influenced their characterizations of their compositions, often determining their sense of it as deep and meaningful or cursory and lacking. Social interactions influenced the degree to which audio revisions functioned as a semiotic resource that could resonate between people, revealed in student metacognitive discourse about audience responses. In emphasizing resonance in social interactions, I extend my metaphor to consider resonance from a physics perspective that highlights sounds perceived as resonant to the extent that they are prolonged by synchronous reverberations from neighboring objects (“resonance”). In the case of this study, “neighboring objects” constitute the composer and his/her audience. Students who shared their work—albeit hesitantly—with others expressed their satisfaction after hearing another person connect with their ideas and emotions. Applying this sonic analogy to semiotic remediation, I argue that a kind of social resonance is

present when composers sense their written-audio texts have had a lasting impact (i.e. reverberated) with their audience. These participants explained their pleasure when emotions and ideas were conveyed to their audience. These moments occurred when a listener acknowledged a composer's audio revision as deep, insightful, or personal.

While participants were familiar with ways to create written texts that are considered deep and meaningful in academic cultures, they were not familiar with ways to use digital sound's sign-using principles to compose a text that others would consider to have a lasting impact. For this reason, remediation processes were developmental, growing in students' evolving awareness and use of sound resources. Students layered tracks, recorded voices, edited sound dynamics, and manipulated digital files in unfamiliar, external activities. Students' sign-using practices developed when composers shared their digital sound operations with an audience. Student reflections and illustrations (see fig. 6) revealed how students learned the potential of these sound resources through Vygotsky's process of internalization, recognizing which aspects resonated with audience through interpersonal connections. It was not enough for someone to simply hear a student's project, students sought audience recognition of their personal touch, or presence, to actualize their ability to take up various sound resources and compose a project that was considered technically or emotionally complex. Students also acknowledged that witnessing others' affirming a peer's work impacted how they understood digital sound features. These acknowledgements validated projects, and by extension, composers. In response, composers internally reconstructed their understandings of external operations and resources.

What was unique in these instances was the power of social interaction on student perceptions of signs. For many students, without audience interaction, they would have remained ambivalent about the nature of digital sound composing. While Beth and John could draw from their musical histories to anticipate and use various materials to compose a resonant audio experience, most described themselves as vulnerable and lost in the medium of sound. Through social interactions, students were able to recognize what aspects of their projects were productive signs in communicating their messages (e.g. music, verbal stumbles). Students learned about sonic features when experiencing what I call instances of resonance with others, and, in turn, were able to rectify their unresolved perceptions of audio composition prior to socialization. Others' recognition of their work by extension recognized students' presence as sonic composers, shaping their identity and developing their potential for future understanding and use of sonic resources.

### **Reflexivity in Remediation**

Thus far in this analysis, I have argued that student discourse revealed instances during remediation when semiotic resources and practices were dissonant, unfamiliar and contradictory, while others were resonant, familiar and lasting. Student attitudes and perceptions of those resources were revealed in their metacognitive discourse which captured their dynamic interactions with signs, using them in situated environments that highlighted or confounded features that students perceived. Participants were invited to reflect on their perceptions of resources they used as part of their audio revision assignment and as part of my research protocol, serving as a catalyst for their learning.

Their metacognition coupled with Professor Amelie's remediation assignment made student processes less transparent than if they had they been prompted to create an isolated audio project. As a result, student participants were hyperaware of their relationship with different materialities while composing. In their reflections and practices, students recognized and shaped sign meanings through their characterizations of semiotic resources, exhibiting what I call reflexivity.

The term reflexivity implies more than simply reflecting or looking back. I use "reflexivity" to refer to students' understanding of a cause and effect relationship between their perception of an object and its impact on their perception of self. In this analysis, I specifically refer to instances when students recognize the significance of a semiotic resource and in turn understand its influence on their attitudes or practices. In this way, reflexivity as a concept provides a way that I frame students as signs (i.e. bodies) involved in and shaped by remediation. In this study, some student discourse reflects a low level of reflexivity in their recognition of a sign's meaning and how it impacts them, while other student discourse exhibits a high level of reflexivity, shifting their practices to maximize their use of a sign.

### **Recognizing Materiality**

While many compositionists have emphasized the value of reflection in writing pedagogy, few have emphasized the value of inviting students to consider the impact of materiality such as technologies on their composing practices (Haas 5). Rather than simply advocating for multimodal texts as a means for capturing student identity, scholars must first examine how students understand various materials through which they

compose and are composed. For an illustration of this idea, I return to Marshall McLuhan's concept of narcosis which frames this problem through his metaphor of a mythical man extended by technologies that he is numb to recognize. Narcissus's tragic flaw is his failure to recognize materiality. To avoid his tragic numbness, Narcissus must recognize that he is looking at water, which has reflective properties that create a mirror image of himself. Such a numbness, McLuhan argued, is the result of the central nervous system performing a kind of self-amputation whereby the body psychologically ignores technological extensions in order to foster progress and acceleration (63-65). By extension, students in my study failed to recognize ways their long assimilated technologies for writing were influenced by materialities, metaphorically ignoring their technological extensions. For these students, academic writing fostered progress when measured in advanced placement credits, honors program status, and higher grades. Their perceptions of material technologies were amputated in favor of achieve those goals. Through the course of semiotic remediation, however, students developed a technological awareness. Students employed a variety of material resources whose dissonant meanings and practices jarred them in ways that rippled their narcotic reflections, drawing their attention to otherwise numb technologies. As a result, they were able to recognize materialities of writing and digital sound as extensions of themselves.

Students developed a duality of presence in moments when they were able to describe in metacognitive discourse various degrees of presence and distance from self-representations in their audio revisions. Their discourse revealed a perceptual duality of presence because students are able to characterize and experience themselves in a



listening present and recorded past. Through metacognition, composers created an essential distance required to “look back” at their thoughts inwardly, and at their past and present perceptions of materials and situations outwardly. Further, when students discursively disembodied their mind from body, they were also able to separate their perceptions from materials that shaped their ideas (e.g. recording devices) and develop reflexivity about materials impacting their perceptions of self.

Through metacognition, students paired their recorded voices with their imagined voices, describing ways an archived representation was discordant with a present interiority. Composers who were disoriented by virtual representations of their voices physically sensed what Frances Dyson calls a “body effect” in the audible, tangible vibrations of their recorded voices felt during playback. Students rejected these harsh, unfamiliar representations of their voices and, as a result, developed the essential distance to recognize digital sound as a material shaping their perceptions. Even in this essential distance, students recognized that recordings were their voices. The materiality of virtual audio prevented listeners from a comprehensive fragmentation with “self” as they recognized a unique “phenomenal field, wherein sound and the body can recover ground lost to reproduction, simulation, and mediatization” (Dyson 143). Through embodied responses, students sensed that discordant sounds were still grounded in their past, material selves. While disconcerting, this virtual fragmentation of self was essential to foster students’ perceptions of signs involved in remediation. Such a paradox of presence drew users’s attentions to the materiality of digital sound resources in ways that more familiar materials for writing (e.g. word processing tools) had become transparent.

Students attended to materiality when faced with this unique confluence of novel technologies, creating an essential dissonance within materials, practices, and self that fostered reflexivity. Specifically, students composing with unfamiliar, sound technologies sensed a duality of self in a live, familiar listening self and recorded, unfamiliar speaking self. This duality was discordant, providing an essential distance for students to remove self from technology and subsequently recognize the impact of materiality on ways they composed and were composed, developing reflexivity.

When I write that students attended to materiality, I emphasize how they transcended states of uncritical narcosis and recognized how technologies used in their audio revisions shaped their processes. Students grew attentive to the impact of digital sound materials on their difficult composing process (e.g. cluttering downloads, advanced sound editing, confusing file exports). Students also exhibited reflexivity in situations when they anticipated that their audio revisions would inadequately represent their ideas because their materials were too distant and harsh. This distance afforded composers ways to remove self from moments in remediation and “look back” in order to recognize technologies at play. For example, they recognized that they could not employ certain features because of their limited knowledge of software affordances. As I addressed in my concept of semiotic synaesthesia, student characterizations of material features were limited by their language stores which were grounded in their histories as academic writers. In these moments, students perceived materials technologies when they were embedded in semiotic worlds, characterizing modal affordances by features that gained significance in context. While it is important to recognize that remediation fostered

students' abilities to recognize materiality, it is as important to note that their metacognitive discourse—functioning as signs themselves—are products of remediation. Student ideas about writing and digital sound evolved through the course of this study, and their words were repurposed in various mediums (e.g. writing, speech, digital sound, images). These permeations of reflexivity were always situated in specific relationships and contexts. For example, students described modalities in situations that highlighted their identity as composition students or research participants, impacting which features of each material were reflected in their characterizations of writing as serious and sound was fun. These variations in student perceptions of material affordances also affected evolutions in students' perceptions of self.

### **Remediating Self**

As students shape signs through use, they are also changed by acquiring new sensibilities and perceptions of semiotic significance. Their new understandings developed students' potential for using various resources, expanding their range of materials available for expression. In this study, students were outside of, yet still a part of remediation. They exhibited an evolving consciousness, or reflexivity, in discourse that reflected a shifting sense of self in terms of their attitudes and properties. As a result, students experienced a remediation of self through reshaped perceptions of semiotic resources, including themselves, that reflected learning. In this section, I am using the phrase remediating self as a metaphorical expansion of the concept of remediation, extending the transformation or repurposing of materials to individuals who engage in these practices. In doing so, I wish to emphasize that bodies are also signs whose

meanings are dynamic and situated in environments where certain properties or features evolve. Although remediating self is a phrase I have created for this discussion, students were able to name, in their own terms, moments when aspects of their composing processes or learning caused a shift in ways they perceived themselves. Several students explained that composing a written-aural composition caused them to look “inward as well as outward” (John), developing what I call a reflexivity towards self as well as composing practices and materials. Students communicated shifts in ways they perceived themselves as writers and as individuals in response to a critical distancing, or dissonance, from themselves prior to engaging in remediation. Through metacognition, students describe an evolving self that grew more resonant with outside semiotic resources through remediation practices and, in response, emerged into a new, unfamiliar self.

Through assignment design and research protocol, participants were asked to examine and characterize their role as composers, and, in doing so, they transformed their perception of self as composer. In my findings chapter, I revealed examples of student metacognitive discourse that intertextually referenced texts provided as part of the instruction, language from their peers, class discussion or our interactions as participant/researcher. These references evolved from direct quotes and citing sources in early interviews to a more generalized adoption of phrases as if their ideas were commonplace towards the end. In this evolution of level of intertextuality, students communicated how they internalized and repurposed texts as evidence of their learning. Students exhibited a

remediated self in their purposeful adoption of signs (i.e. words) to frame how resources changed their perception of self as composer.

Ironically, one phenomenon that emerged from students' working with digital sound was their indication of changes in their attitudes towards writing, revision, and their role as writers. In our initial interviews, participants characterized writing as formal, analytical, and formulaic while subsequent interviews and texts revealed students included audio projects and informal writing in their reflections as examples of "writing." In addition to broadening their notions of what constituted writing, students' ideas about revision evolved throughout the study. When students juxtaposed different materialities in their audio revision, they experienced revision in a unique way, realizing that revision as a practice was not limited to sentence-level polishing. In response, students were challenged and unsettled by the freedom of creating an audio revision because this kind of composing, as a genre, defined them much differently than academic writing had in the past. These unfamiliar audio composing practices provided enough distance for students to develop reflexivity, recognizing features of writing and sound as they impacted perceptions of themselves as composers. This distance meant that through remediation practices, students developed an ability to contextualize and compare types of composing in differences of learning environments, teacher pedagogy, and assignment design, specifically considering cultural notions of writing in academic settings. In response, many described themselves later as less structured writers who more willing to engage in deep revision, empowered by new potentialities in digital sound.

Participants also experienced (and were aware of) themselves as subjects of remediation. Students articulated the significance of their evolving ideas, attitudes, and/or identities through written reflections and spoken interviews. These instances reflected students' awareness and changes in their perceptions of past selves and in shaping future selves. As explored earlier, students experienced their projects as both past composer and present witness to their evolutions because of the affordances of archived digital sound. As composers, students either produced personal narratives that examined key moments in their past (e.g. learning to whistle from grandpa, moving in middle school, avoiding classroom conflict) or crafted reflections that examined relationships with sound as a modality (e.g. role of music in spirituality, value of silence, country music as memory, sounds of thoughts). As witnesses, students reframed these archived attitudes or experiences with language that conveyed new realizations. For example, in Anna's case, participating in research provided her an opportunity to distance herself from her experience in an ongoing class conflict. While listening to her audio revision in our follow-up interview, she paused the sound and launched into a ten-minute commentary on the "truth" behind her audio revision. In doing so, she simultaneously remediated several out-of-time selves through intertextual references to (1) her angry self in a class conflict as subject of the audio revision, (2) a student-composer reluctantly creating an audio revision, and (3) a research participant providing raw, angry responses to the other two selves. In the course of her surprising tirade, Anna recognized that she was unhappy with her submissiveness in the past and her drive to perform for grades, a point she blatantly admitted. Finally, she resolved that she wanted to reframe how she performed in

class environments, socially and academically. In this unscripted remediation, Anna discursively drew her chronotopic selves together, resulting in an transformation in the way she understood herself as a student.

### **Conclusion**

I framed this study using semiotic remediation as a concept that is rich in its potential for studies of signs, sign-systems, and significance. In reframing composing as remediation practices, I have emphasized that materials have meaning and potentialities for use in so much as those features are perceived by users. My study expands the concept of semiotic remediation practices by accounting for the value of student perceptions as revealed in metacognitive discourse. Their discourse functions as part of semiosis, deeply situated in shifting historical, cultural, and social worlds, which reveals ways that students understand and use semiotic resources in unfamiliar practices. Students understand and use semiotic resources in so much as they can perceive them as full and productive materials for composing. Complicating this understanding are resources that students perceive as harsh and discordant which seem to function as roadblocks to their learning. In reality, these instances of dissonance and resonance are in symbiotic relationships which create an essential distance, characterized through disembodiment, that students need in order to learn and recognize their learning. Their recognition, in the form of metacognitive discourse, represents yet another sign, one that illustrates ways that remediation also impacts the student through metaphorically remediating self. As a study of composing processes, my analysis provides a framework for understanding how individuals make sense of unfamiliar tasks and resources,

especially when students remediate different modalities with and against one another (i.e. semiotic synaesthesia). In doing so, concepts I develop in this chapter (resonance, dissonance, reflexivity) have replicability without being limited to certain modalities, such as students composing with writing and/or digital sound. My analysis further suggests implications for theoretical studies of multimodal experiences and pedagogical applications of remediation for learning which I explore in the next chapter.



## CHAPTER SIX

### CONCLUSION

#### **Significance in this Study**

My purpose in this dissertation study was to examine how students understand and use a variety of semiotic resources when composing with unfamiliar modalities, a likely scenario given today's expanding composition curricula. Specifically, I aimed to study student practices, attitudes, and cognition in their negotiations composing with such modalities. In this study, I framed composing theoretically as a complex act of semiosis, which enabled me to define writing and digital sound materials as semiotic resources, and highlighted how students encountered and perceived the situatedness of these materials. In order to capture the situatedness of a sign's significance, I chose a grounded theory methodology. Methodologically, I framed this study to ground emerging concepts and theories in rich data, represented in a variety of modalities (e.g. speech, image, writing, and digital sound). In approaching this expansive data corpus, I attended particularly to student perceptions of various resources of writing and digital sound through a careful analysis of student metacognitive discourse that shaped learning. My emphasis on perception extends previous studies of composing practice to critically examine how students understand and use, and as a result, shape semiotic resources in remediation.

My examination of student processes while remediating writing and digital sound provided a means of understanding how student learning is influenced by their experiences with signs that are materially, culturally, historically, and socially significant. In my dissertation, I wanted to do more than define generalized affordances of digital

sound or writing. Such an approach would fail to account for how students uniquely recognize and shape materials they encounter in our classes. Compositionists have spent decades arguing that attitudes towards writing are shaped by experiences that are social, cultural, and historical, and, as scholars. Logically, we should extend that same attention to sociocultural influences on experiences with non-dominant modalities. Rather than articulating a list of digital sound features, my analysis carefully examined instances and evolutions in students' recognition of materials and practices that I characterized through concepts of *dissonance* and *resonance*, distinguishing discordant or lasting embodied responses that influenced students' perceptions. In my grouping of student responses based on which resources were perceived as resonant or dissonant, I captured relationships within students' nuanced understandings of signs in ways that highlight how the culture of school influences students' perceptions. Among these findings, students' practices reflected a reliance on writing as a dominant and comfortable form of composing, likely grounded in their histories as strong, academic writers in AP courses. These histories as well as their attitudes regarding alternative modalities influence their conceptual resistance and material approaches to a task of written-aural remediation.

While many scholars have focused on ways that students use signs, my study was unorthodox in its emphasis on metacognitive discourse as a kind of semiosis that represented evolutions in students' perceptions and learning. In examining how students negotiate an unfamiliar task, I foreground metacognition as a critical material sign, revealing and shaping student learning. Using intertextuality as a framework for theoretical coding revealed moments when students' metacognitive discourse shaped

individual and group perceptions of resources, revealing connections within rich data that show evolutions in student perceptions of their remediation practices and learning. Specifically, my findings revealed that student learning relied on their negotiating between histories with materials, a material's cultural significance, and immediate social interactions to shape their understandings about writing and digital sound features. In my analysis, I developed a theory whereby metacognitive discourse, functioning as a sign itself, captures and frames students' responses to familiar and unfamiliar composing resources, providing evidence of their embodied responses to discord (i.e. *disembodiment*) and efforts to negotiate in response (i.e. *semiotic synaesthesia*). For example, student remediations of written-aural composition revealed that remediation was less linear and more simultaneous in their practices and conceptualizations, juxtaposing modalities and reshaping both writing and sound. In addition to providing me with rich signs for study, student characterizations themselves also helped them to recognize significance in their material experiences. Emphasizing learning, I ultimately show how this double process of sign making has implications for students' interpersonal development in my introduction of the concept of *remediation of self*.

### **Implications Beyond this Dissertation**

My findings and analysis point to implications beyond the scope of these seven participants and their audio revision projects for theoretical, methodological, and pedagogical applications in the fields of composition studies and new media studies. While drawing on our histories of framing and understanding student composing

processes, my study invites revisions of those approaches to research design and teaching practices.

My choice to foreground materiality invites us to consider how semiotic resources shape—and are shaped by—student practices. While productive for expanding my corpus of data, this theoretical framing also provided a way of examining student encounters with a range of materials outside of writing. Participants in my study had such deep histories with formal, academic materialities that their perceptions of writing resources afforded and constrained their abilities to understand and use other modalities. Their frustrations negotiating new composing tasks, as perceived in unfamiliar materials and genres, highlight our need to attend to materiality when asking students to work with non-dominant modalities. Pedagogically, framing those experiences through familiar resources may bridge student attempts to encounter and use new resources, such as digital sound. This was certainly true in this study's population, whose shared experiences seemed to limit their ability to adapt to novel composing tasks, highlighting how heavily academic programs such as AP and Honors can influence how students perceive and use traditional writing materialities. Further, I anticipate theoretical potential in *semiotic synaesthesia* as a conceptual way of recognizing student practices and learning that remediate familiar resources when composing with unfamiliar resources. These findings suggest that semiotic resources metaphorically function as containers and bridges for student learning, challenging us to examine more closely how our composing materials impact student learning. Further, expanding our theories of composing to semiotic

remediation draws our attention to non-dominant materials, which we often uncritically adopt, to consider how they shape and are shaped by student practices.

We should also consider the value of student negotiations in remediation tasks in terms of our development of learning theories. In this study, students learned through combining materials and practices that I characterized as dissonant and resonant, evolving through iterations of negotiations with their audio revisions. If their experiences had remained largely dissonant, students would likely have failed to perceive meaning in pairings that they perceived as harsh and incompatible with their histories and experiences. Learning did occur because these instances of *dissonance* coexisted with moments when students perceived semiotic resources as deep, full, and lasting. Moments that juxtaposed discord with depth were essential in fostering learning, distancing students enough to recognize a resource before drawing them closer to shape its significance. It was essential that students experience these resources in order to understand and use them. For this reason, we should be wary of providing fixed notions of material affordances for students, foregrounding their experiences with novel modalities. Instead, we should invite students to experience novel materialities and process their responses to them, developing a reflexivity regarding how their perceptions have been historically, culturally, and socially shaped. This approach allows us to better equip students with an ability to understand their responses to unfamiliar composing tasks, especially through an emphasis on metacognition that shapes what and how they learn.

My study demonstrates how metacognition as a methodological artifact is valuable for understanding relationships between materials, perception, and understanding. Certainly there are scholars, such as sociolinguistics, whose approaches contextualize language with analytical methods such as critical discourse analysis. This study reveals that students may also benefit from an intentional use of metacognition to articulate and make conscious their experiences with resources used in composition. This metacognition is relevant to scholars interested in phenomenological studies, especially as student discourse provides accounts that connected phenomena (e.g. revision, “voice,” self) with shifting perceptions of actual and potential features of novel materials. In attending to metacognition, we can capture these dynamic shifts in student perceptions of signs, and, as a result, understand how students shape evolving affordances of semiotic resources they encounter. This methodological resource further supports semiotic theories of multimodality that approach *mode* as culturally and socially shaped, rather than fixed. Instead of promoting new materialities for composition based on blanket affordances, we could then develop more informed theories for understanding how student perceptions of non-dominant modalities shape new literacy practices.

#### **Limitations of this Study**

It is important to recognize that while metacognition affords researchers a rich resource for study, it is itself a sign, limited by affordances in delivery materials (e.g. writing, speech, illustrations) and students’ evolving abilities to capture their embodied responses in language. While I was careful to include a variety of metacognitive artifacts in my research design, I recognize that these signs both afforded and constrained how I

understood student perceptions. Speech, writing, and image shaped my understanding of potential meanings in student perceptions through their use of words, vocal dynamics, and icons. My analysis, albeit careful and detailed, is limited by my ability to recognize and understand signs through which they communicated. Further, I realized once my study was completed that I wanted a more careful account of evolutions in student perceptions that could be represented in process illustrations or video logs, for example. This method would have provided even more data regarding permeations in their learning.

I was also limited by an inadequate method for capturing evolutions in student remediation practices during their composing of audio revision projects. Due to the manner in which sound editing software overwrites previous drafts, I only had access to their final, compiled audio file. I was restricted in that I did not ask students for process “drafts” of their sound projects. This limited my ability to recognize instances when intertextual discourse might have impacted their perceptions of digital sound affordances, especially in any sudden uptake of new tools or changes in textual design. With a more detailed progression of edited projects instead of compressed sound files, I could more closely examine how students perceived and used features in editing software, and how their decisions might have correlated with social interactions to consider the impact of community on “tuning” (Ahern) perceptions of material affordances.

Some seeming limitations actually empowered this dissertation research, especially as I aimed to ground theories in rich, situated data. My narrowing to a specific population and specific modalities may limit my ability to generalize theoretical concepts

to different groups of materials, certainly calling for replications of this study. In writing this, I emphasize how this specific group had a unique commonality in their experiences with formal writing in academic honors programs. Alternately, this commonality provided an interesting opportunity to recognize how group experiences shaped one another's learning. Countering this potential limitation, I recognize that a strength in this dissertation is its attention to each student's histories and experiences with writing and digital sound. In the case of digital sound, student variations working with digital sound complicated any tendencies towards generalizations, examining how students' unique experiences with sound influenced their responses.

Finally, I recognize that my concepts and theories afforded and limited my attention to specific materials and composing tasks. Any expansions of this research would need to take into consideration study conditions that invited these concepts, such as the way an assignment required students to remediate writing into sound, that influenced how I perceived sign significance. Adopting a grounded theory approach, I was careful not to frame my coding and analysis through others' theoretical findings. Still, I recognize that my understandings at the time of writing this dissertation functioned as a terministic screen for my study, recognizing that my adoption of others' terms and my choice of conceptual terms influenced my perception of phenomena. It is even possible that my own experiences with modalities involved in this study limited my understanding. I specifically chose digital sound as a modality for study because of my own sense of dissonance with its semiotic resources. Although I have experimented in my own classes with audio composition, I would characterize my own sensibilities as more



visually oriented, claiming photography as a serious hobby of mine. For this reason, I purposefully avoided studies of remediation that relied heavily on image modalities. In doing so, I may have limited my ability to perceive nuances in student responses and practices with digital audio. Or, on the other hand, this limitation may have been a strength in my creating a situation where I was distant enough from unfamiliar materials that I could engage in dynamic learning, recognizing and articulating my theories of sound through pairing student experiences with my own.

### **Expansions in Future Research**

This study produced exceptionally rich data. A grounded theory approach enabled me to avoid grand theoretical generalizations, developing instead a body of terms that capture phenomena that emerged in students' experiences remediating writing and digital sound. I recognize my need to refine and replicate this study in order to constantly compare my findings with other students' experiences, and, in doing so, will likely seek populations of students whose different demographics and composing tasks provide new challenges to examine. Shifting features of this study, such as an attention to students working with different semiotic resources, would likely bring new insight to my theory of student learning. For example, while conducting this study, I was teaching a class titled *Multimodal Composition* and recognized an opportunity for expanding my study. I remember being hyperaware of one student's initial response to composing with digital sound. This profoundly, hearing-impaired student articulated perceptions about our experiences working with digital sound that were markedly different from others' responses, describing an embodied response to recorded radio shows that mimicked ways

hearing students in the class were describing noise. Her own experiences with sound, especially as exacerbated by assistive hearing devices, heightened her awareness of resources that other students had not recognized. As a result, she composed a rich, insightful sound composition that layered signs in an aural semiotic soundscape, backgrounding her decision to use her project as a sign complete with metacognitive discourse about how she understands and uses sound resources. Her resulting sound composition maximized, from my perception, the affordances of software she used as well as shaped, through her content, her sense of why sound was a significant material for expression. I regretted that my IRB, limited to the Composition II population, did not allow me to study her experiences. I imagine that expanding this study to sensory disabled populations with non-dominant embodied responses to materials and modalities will provide rich, unique insights into relationships between materiality, perception, and learning.

Another area for expansion is in studying relationships between remediation practices and students' perceptions of resources used in these practices. While we have incorporated remediation as a pedagogical approach in composition, especially in our advocacy of speech as method of improving writing, this study suggests ways to expand our studies of these approaches. I see potential in our considering the impact of remediation pedagogies on student learning, especially those remediation tasks that foreground students' attention to materials (i.e. modalities) and their significance. Results from these studies would provide rich resources for theorizing how students understand and use materials, and therefore, provide a relevant way to reconsider the value of current

trends that seek to expand semiotic resources available in composition pedagogy. In studies of speech and writing in mediation, scholars often frame student experiences through disciplinary signs (i.e. common terms used in scholarship) that signify recognizable field ideologies. These disciplinary penchants for naming can be problematic when framing student perceptions of composing processes and semiotic resources. For example, scholars whose attention to sonic aspects of literacy frequently use the term “voice” in ways that is meant to evoke an embodied, aural sound within our discipline’s culture of valuing student self expression in writing. Language used in this kind of scholarship is problematic when scholars fail to examine how terms conjure rich layers of meaning, gaining significance in situated and mutable use within language communities. I am concerned about the implications of our failing to closely examine relationships between our terms and their potential for pluralistic meanings with respect to remediated composition.

Our disciplinary language functions as a sign that characterizes features of experiences and resource potential in remediated composing. These potentialities, in turn, inform our pedagogies through our theories about composing practices and material affordances. Given this, our theories of remediating sound and writing are actualized and limited by the language scholars and teachers provide to frame those experiences. Also, we must consider the implications when studying novel composing experiences through which students and teachers lack language to frame their experiences. Inadequate, decontextualized linguistic stores may fail us when framing novel experiences, such as those of digital sound composition. In order to move past unstable signifiers (e.g. terms

such as speech, writing, voice), participants must be prompted to characterize their perceptions of remediated composing and modal affordances through rich descriptions of experiences in specific contexts (e.g. social interactions, composing histories, cultural contexts).

For this reason, I argue that scholars move away from using disciplinary terms in order to more accurately capture student perceptions and learning. Of course, studies of participant perceptions still rely on student use of a linguistic form (i.e. words) which is not “stable and always self-equivalent signal, but that it is always changeable and adaptable sign” (Voloshinov 68). Such a paradox is complicated even more when considering studies of composing practices when students remediate texts with unfamiliar modalities. Still, our drawing from discipline-adopted signs (i.e. terms for concepts) almost certainly limits our ability to understand how students understand and use unfamiliar materials as terms become generalized in extended use.

By extension, this dissertation itself gains significance in our recognition of it as a discipline-specific sign. These pages, paragraphs, sentences, and words are shaped by histories of doctoral experiences before me that I was socialized to recognize and replicate for the purposes of completing my PhD requirements. In doing so, I came to understand and use dissertation signs, such as recognizable phrases or chapter genres, to communicate meaning through a delivery format that would be recognizable to readers of my text. While I consider my experience of composing a dissertation to be one of the most difficult and fulfilling challenges I have faced, I do think that this culturally significant form falls short in its potential for recreating a semiotically rich research

experience. Culturally, a dissertation's alphabetic resources shapes ways that readers can experience and respond to the rich body of materials, especially in our discipline's expectations of what a scholar can do within the genre and materials of a dissertation. This written form limits our perception of the range of semiotic resources that shape its meaning.

My own dissertation is a remediated composition in my simultaneous use of a deep and full body of resources, not represented in this linear format. Those resources include: hand-sketched drawings in a composition book, audio memos recorded in SoundCloud during a bike ride, Skype conversations with my chair, giant post-it notes taped to my bedroom wall, stacks of books and articles inked with annotations, and an electric bill featuring my daughter's handwriting of the phrase "nuance of experience." All of these semiotic resources worked together to influence and shape this series of words and, by extension, their meaning; however, other than my description in the previous sentence, readers would hardly perceive their presence in my composing process.

In making these observations, I suggest that one critical area for expansion is in our producing texts about remediation that are themselves opaquely remediated. This means that studies and dissertations should foreground a range of semiotic resources implicated in their composing processes through delivery formats that highlight materials and bodies. This remediated digital scholarship would then recreate an environment, rich with semiotic resources, that would invite audiences to engage with a variety of materials implicated in dissertation studies, heightening our opportunities for resonant, embodied

experiences with scholarship. In the spirit of exploring these expansions in scholarly delivery, I invite you now to set this screen/print material aside and visit my website at <http://jjbuckner.com/dissertation> to experience an aural remediation of these concluding thoughts, including a remix of sound-oriented materials referenced in this dissertation process.

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## **APPENDIX A SPRINGHAVEN HONORS PROGRAM INFORMATION**

### **About The Program**

#### **Purpose**

The Honors Program seeks to provide academically qualified students of all majors with enriched learning opportunities and classes taught by Honors faculty in an engaging manner.

The Honors Program holds its students to high standards, encourages them to become leaders academically and socially, and urges them to actively engage in service to the community and the University. It strives to see students grow academically, culturally, spiritually, and socially.

#### **Mission Statement**

The mission of the [Springhaven] University Honors Program is to nurture academically qualified students in all majors by providing a program of enriched learning experiences in courses taught by an Honors faculty and to instill community pride in its members by encouraging students to become active in service-based projects.

#### **Goals**

To provide:

1. and encourage opportunities for student-centered learning in Honors core classes
2. opportunities for cultural enrichment
3. opportunities and encourage student community involvement
4. enhancing extra-curricular learning opportunities
5. an opportunity for and encourage student research
6. an opportunity and encourage student involvement and participation in the activities of the [state], [regional] and National Honors organizations

**APPENDIX B**  
**PARTICIPANT LETTER AND CONSENT FORM**

To Whom it May Concern,

November 2012

My name is Jennifer Buckner. I am a faculty member at Springhaven University and doctoral student at Old Dominion University. I am currently interested in how individuals are using recorded sound as a way of composing, especially as part of a classroom environment.

I would like to learn about composing with sound by studying the work you are doing in your composition classes. If you are willing, I would like to observe you while you work in class on your sound projects, interview you about your process and experience of using sound, and study samples of your work with sound.

Your experience and sample will be used with others to theorize about the potential of using sound in composition classes. I hope that my research will help teachers and students to better understand what happens when we compose with sound. This data may be used in future publications or presentations, however, I will not use your name in any publication or presentation associated with this study. Field notes, consent forms, and audio samples will be kept in a locked file cabinet to ensure confidentiality. Further, your participation is completely voluntary: you may choose to participate or not participate in this study.

If you would like to participate, please, sign and return this form to your professor or Jennifer Buckner. If you have questions, please contact me at [jbuckner@gardner-webb.edu](mailto:jbuckner@gardner-webb.edu) or (704) 406-4394.

At any time, you may choose to no longer participate in this study. Please, contact X, Institutional Officer of Springhaven's IRB at (###) ###-####.

Sincerely,

Jennifer Buckner

Department of English Language and Literature  
Springhaven University

English Studies, PhD Student  
Old Dominion University

The following Institutional Review Boards have reviewed my request to conduct this project: Springhaven University and Old Dominion University.

**Research Project: Aural Composing**  
**Investigator: Jennifer Buckner**

Date \_\_\_\_\_

I \_\_\_\_\_

*(Please, indicate whether or not you consent to participate)*

\_\_\_\_\_ agree to participate in this study, allowing JBuckner to observe during class audio workshops, interview me, and study copies of my audio work. Recordings will be used for research purposes and for educational and professional development workshops. Recordings will be kept indefinitely and stored securely when not in use.

\_\_\_\_\_ do not agree to participate in this research study.

I further understand that by signing this release, I waive any and all present, or future compensation rights to the use of the above stated material(s).

Print Participant Name: \_\_\_\_\_

Participant Signature : \_\_\_\_\_



**APPENDIX C**  
**PROCESS ILLUSTRATION PROTOCOL**

**Drawing Your Process**

**November 2012**

As part of my study, I'd like to understand your process of composing your audio revision, especially ways that sound and writing relate in your process. There are, of course, parts of your process that I can't watch since you are working on your revision outside of class.

As a participant in the study, please, draw your process for the next couple of weeks while you work on your audio revision. This illustration need not be a masterpiece visually. Don't worry if you think I won't be able to interpret an image. I'll ask you to explain it to me during your second interview. The aim of this exercise is to understand the processes and spaces of your composing.

Your drawing should represent your composing process for your audio revision. Your picture might show steps in your process; interactions with other people, texts, and technologies; experiences that shaped your composing; and your attitude during different stages of the composing process.

Please, bring your drawing to our second interview on \_\_\_\_\_ at \_\_\_\_\_.

Thank you,

Jennifer Buckner

## APPENDIX D AUDIO REVISION ASSIGNMENT

### **Audio Revision Assignment**

For this assignment you will take anything you've written for this class (a paper, a reflection, a writing into the day entry, even a discussion post) and you will revise it "for the ear."

Revising for the ear means taking your own ideas and perhaps the ideas set forth by your classmates or Geoffrey Nunberg about what "sounds right for the ear" and applying them to your writing.

#### Schedule:

What does revision mean?—November 19th

Writing for the Ear—November 26

Writing for the Ear continued—November 28<sup>th</sup>

Mentor Texts—November 30<sup>th</sup>

Audio Revision Due- December 7th

#### Grade Breakdown

Revision 10%

Cover Letter 50%

Evidences (original draft, annotated draft, and works cited page) 40%

#### Annotated Draft

Using the track changes function if you are using Microsoft Word, or footnotes if you prefer, note the changes that you made. Some of you may choose to riff or

#### Cover Letter

Your cover letter must address the following in whatever order you see fit.

- Why did you choose to revisit and revise the piece you chose?
- What did you change and why? (You will interpret your Annotated draft here. Your goal is not to explain the changes you made, but to analyze them. Do this by explaining the ideas governing the changes you made and examining any patterns you notice.)
- What did you add and why? (Because we are working in a different medium—sound—you had access to a foreground and a background. What songs, sounds or silence did you choose to write into this assignment writing? Why?)
- Speak about process—both the revising process and the recording and editing process. (This is where you talk not only about what you did, but also how well it worked out. You may want to speak about previous experiences with revision or recording and editing sound, particularly if

you have limited experience with these processes. Some questions to consider are: what would I do differently next time? What would do the same? What problems did I run into?)

- Speak about the medium. How has composing with sound afforded and/or restricted this revision? (If you experienced anxiety or glee during this process, this is a good place to talk about that. This is good place to talk about what you were or were not able to do because of the medium).
- Speak about the final piece—what do you think of it? What do you like about it? What, if anything, will you take from this exercise as you revise, record, listen, speak and edit in the future?

Resources:

Nunberg's principles for writing for the ear

#### Content and Structure

1. **Fix the listener** in a particular time and place
2. **Use concrete examples** as often as possible, especially those that encourage identification
3. **Signpost regularly**: replace visual cues with aural cues, esp. with voice.
4. **Quote others sparingly, briefly**, but use actualities (taped interviews, performances) freely
5. **Be informal, conversational, but not** flippant or careless—every word must count toward the point you are developing
6. **Posit an “ideal listener”** for your piece

#### Language

1. **Be sure every segment of exposition has strong cohesion** (Use simple parallelism, compare/contrast, or devices such as "Topic Strings" or "Chain-Linking")
2. **Avoid long relative clauses**, especially at the beginning of sentences
3. **Avoid complex sentences**
4. **Avoid lots of adverbs**
5. **Keep lists short**
6. **Use voice** rather than content to indicate attitude and posture—this helps eliminate a lot of exposition
7. **Vary inflection regularly**—by section if possible—and to signal transitions and approaching conclusion

## APPENDIX E INTERVIEW QUESTIONS

### **First Interview - Student Participants**

1. Tell me about your experiences with writing prior to this class.
  - A. How would you describe your attitude towards writing?
  - B. How would you describe your attitude towards revision?
  
2. What, if anything, did you know about sound technology prior to this class?
  - A. Tell me about the experience of recording your cover letter for your subgenre analysis.
  - B. Do you listen to audio recordings? podcasts? audio essays? audio books?
  
3. Could you describe your thoughts on the upcoming audio revision for 102?
  - A. Tell me about you plan to go about revising an earlier piece of writing.
  - B. How would you describe the relationship between writing and sound?
    - i. What is your sense of how writing is valued? perceived?
    - ii. What is your sense of how digital audio projects are valued?  
perceived?
  
4. Do you have any questions for me?

**Follow Up Interview - Student Participants**

1. Tell me about your experience of composing an audio revision.
2. When you think about the thought, time, and effort you put into this project, how would you compare your audio revision to other work you've done in 102? How do you think others felt about this project?
3. Describe any concerns you had while working on this project.
4. Did audio composing impact your ideas about revision?
5. [Look at Student Illustration]. Using your drawing, tell me about your process.
6. [Cue Student Audio File]. I'd like us to listen to your audio revision and have you describe your response to your final audio. Feel free to stop it and talk at any time, if you have something you want to add.
  - A. How do you think it turned out? Are you proud?
  - B. What worked really well?
  - C. Is there anything you would change?
  - D. Tell me about your response to your recorded voice. Do you have similar feelings about your written voice? Why?
7. What is your perception of how speaking and writing were related during your composing of this project?

**Initial Interview - Professor**

1. Can you talk a bit about your decision to focus this FYW class on sound?
2. How has it gone? What's worked? Not worked?
3. How has the class used speaking with writing?
4. Can you talk about the sound experiment.
5. How willing is this class to engage in process? revision?
6. How does this class compare with others that you've used this theme on in the past?

**Follow-Up Interview - Professor**

1. How would you compare this class' experience working with audio revisions of a written text with previous classes?
2. Can you talk about you think the audio revisions went? Did the revisions meet your expectations? Were there any surprises in student performances or responses to the activity?
3. Can you talk about how the audio revision worked with earlier assignments / activities in your class?
4. Do you feel the audio revision activity is beneficial to students? In what way?
5. How do you see it fitting into your goals with first-year composition? department goals?
6. Given how this experience went, do you have plans to repeat this activity? in the same way?

## APPENDIX F SAMPLE MEMOS

### **Memo: Class Observation**

**Date: November 11, 2012**

One thing I noticed today was the difference between students comfort levels with technology in this class when compared to the pilot group last spring. These students could follow written instructions for how to set up a second track in Audacity and use that alone as a means of starting their music background. They were also self-sufficient in terms of recording their voices and creating their audio cover letters. Several finished in the scope of the 50 min class and uploaded it to Blackboard. This is an Honors class, so I wonder how much their access to technologies and comfort with them is influencing their participation and willingness to play.

Even as many weren't shy recording, I did notice many would hunch over (see image in field notes) when recording with the microphone. I did see some who were giggly today doing the 'serious' work (or Professor A called it 'normal old you') Professor A was asking them to do, and I was surprised when I saw them look around after they'd recorded something to see if others were watching. I was also surprised when the most outgoing (perhaps?) student in the room--Megan--relistened to her audio and immediately pulled the headphones out of her ears, saying "I can't listen to myself" even as she's smiling. This is a student who listens to herself constantly and makes a gesture out of getting others attention with loud singing, funny comments, and bragging about her play last week with her audio. What about the experience of listening to her self changing her response?

One student commented to Professor A that she was "killing me" with the addition of a 2nd track and music. Do they see this as serious work? This makes me wonder if they think an audio cover letter is just secondary to the real work of FYC.

Other questions I asked in my field notes:

How do you feel about your recorded voice?

Do you have experiences recording yourself? listening to it?

How do they respond to voice in writing vs. audio?

What makes our response to recorded sound so different?

What are our attitudes towards archived voice?

Is there an increase in their sense of permanence? sensitivity? access?

How do they perceive recorded voice?

What is the relationship between spoken and written voice and a student's sense of materiality?(speaking/recording)

Who do they imagine is listening to their recorded voice?  
 Who are they when they listen to their own voices? an outside persona?  
 How is listening to sound different from reading?

---

**Memo: Coding Kathryn's Artifacts**

**Date: July 16, 2013**

*Interview #1*

K has a way of pointing to experiences as shaping her views of writing, esp pointing to grading and value of writing over “fun” and “exploratory” audio projects.

She has a def. history with writing as causing “stress” to her, esp in her push to get it perfect before submitting it and mentions often aiming for an “A” or ‘the grade.’ In all the effort she seems to put into initial submissions, she fails to see value in revision. Or admits that she doesn’t see ways to overhaul a piece and revise it. It’s clear that her primary audience for writing in class is teacher, even as she mentions punishable/ academic journals. (In contrast, her mention of choosing a topic for the audio revision beings with what “people” might want to hear.) Other than being asked to share her work with peers in class, K doesn’t actively do so, only having shared some work with her Mom for proofreading in high school.

Some projects, likely those that are ‘creative,’ aren’t constituted by K as writing (mention of drawing a myth depiction and the audio essay). While she anticipates problems with technology and admits to being new to it, she also has no problem clicking her way through the software to learn and exporting it as a new file type when play A falls through. She doesn’t self-identify as an auditory learner and has somewhat of a background listening to audio books, a podcast series, and sermons. She anticipates that the audio technology is “kind of modernizing English class” (12).

Like most, she finds her voice “strange” and “funny” to listen to in audio recordings and references home videos from her past. She describes talking as unfiltered and “less stiff” in contrast to writing that is more formal and drawn out. Talking is like thinking. And writing is more valued in a composition class, based on her history of how writing has functioned in a class and her anticipation of the mediums value in a college setting.

*Artifacts from AR (Cover letter, annotations, revisions, and final reflection, interview #2)*



### ***Narrative - The role of Genre***

Over and over, K points to narrative and storytelling as key in gaining audience interest. She talks about her own preference for this genre in anticipation of knowing that others will likely find it appealing as well. In her cover letter for the AR, she talks about narrative's potential to connect in its "passion and sentimentality," "specific tone and and sincerity and personal contribution" that are tied to "human emotions." In her annotations for AR, she points to incorporating music to communicate a change in her mom's sentiment or to communicate a mood or emotional atmosphere. This is a trend that shows up in her final reflection for the course as well when she mentions the appeal of sensory writing, of which she places "sound" as an example, for its "significant emotional responses," further indicating her subsequent decision to become an English major. Obviously, this impact was strong as it impacted her career choice. Makes me wonder what she found so inviting and appealing about it; while she mentioned only have sparse experiences of her own listening to sound files, she did share with pride how others responded to her work. And in her final reflection pointing to ways that sound helped her become more aware of audience, "them" (which I read largely as the class---a sharp contrast to her otherwise constant references to the prof).

### ***"I wrote to see how it sounded" (Cover letter AR)***

Ok, This sentence...I can't shake it. She is writing to "see" (already a synesthesia reference) which I assume indicates understand. So, she has to write to understand how it sounds. While she recognizes that sound is so different from writing, she is really bound to writing as a composing process, needing to first write it out to achieve and convey her goals (cover letter). Reading aloud was a large part of her process to help her write away from the formality of her style, as established in her history of writing. She describes loosening up her style for sound and enjoying the recording and editing. Fascinating that she needs writing in order to understand how it sounds. Why? What is the relationship between writing and sound in this sentence? Without writing, she couldn't hear it. She couldn't just speak it. So, she had to write to hear it. Is this because her writing voice is so dominant that it overrides her spoken voice?

### ***Formality of Writing vs. Recorded Speech***

Over and over, K mentions writing as formal; her need to be a perfectionist in contrast with speech as less formal, forgiving of major grammatical errors. And in working through her recording, realizing how "formal" and perfect her own writing has become (a history she attributes in her final reflection to her history in English classes which she contrasts with this experience). As a result of working in recorded sound, she became conscious of the differences and worked to make her own writing more natural. She also mentions in her second interview that her enjoyment of the editing process is tied to her perfectionist tendencies...drawing a connection between them through an intertextual reference to process.

### ***Role of Music with Voice-Writing***

K is not the first to mention enjoying incorporating music into her audio essay, esp as she uses it as a medium to set the tone/mood. Specifically, she references a moment in her annotation when she's going to incorporate music in her narrative to indicate a change in her mother's sentiment. HUGE in her second interview, mentioned several times as part of the process she most enjoyed. Recording her voice was illustrated as a sad face, adding the music was illustrated by a happy face. She talks about the song as helping her to "really tell the story" and in that process recognizing the value and connections the song had with her experience (second interview).

K talks about not liking her voice quite a bit, esp as it doesn't communicate her mood or "coming across" as what she intends. *Across* indicates that the audio revision is functioning in a transmission type manner, sending a message from her to her audience. I'm wondering if K (and others?) are disoriented by hearing their voices disembodied. K talks about how her voice doesn't sound like she hears it. Recording her voice is associated with "insecurity" and "vulnerability" when your voice is "out there." This in contrast to ways that writing provides more safety/security, esp as there's room for readers to use their imaginations. So, reading K's writing invites readers to participate. But K positions herself as disembodied and putting her voice "out there" in an audio piece. Is there more of K in the audio revision? Her writing prior to this class is largely characterized as formulaic, 5-paragraph, analytical experiences, even as others have bragged about her skills.

Or are we all just disoriented b/c we sound differently than we do in our heads? Still, that seems too dismissive.

### ***Conveying Emotion***

K mentions this as does J-Male. That conveying and portraying the emotion in the audio revision is important. K takes pride when the professor cries after listening to her piece because she successfully conveyed the emotions she was aiming for. Also in her second interview, K mentions feeling good when S-liked it. K talks about conveying. To convey is to share the message/focus/mood/intent with audience. It's a sharing of sorts. When her prof responds, K talks about it meaning something to her b/c she cried. And K cried while composing the sound revision. Prof responds as K does...the emotions are conveyed, shared, transmitted between. And K's responses refer to real time responses.

This contrasts with portraying which seems less present. As if the writer imbues the project with emotions or a mood and they're asynchronously accepted or communicated by an audience (possible) later. In portraying, is the writer-composer-recorder present or is this person creating a project in such a way that he/she doesn't have to be present?

What is the relationship between conveying and portraying? How does this suggest a connection between writer and audience? How does sound work as a channel for communicate similarly or differently from writing? And what about how students have learned to communicate /convey with their writing is different from the way they operate with sound? And what does this suggest about messages themselves? and relationships between writer-reader and speaker-listener? that have shifted?

K draws herself in her final square with her thumb up and two messages, “pleased me” and “seemed to convey purpose to others.” Strikes me how much of her sense of the projects value comes from gauging others responses. Something she doesn’t convey with her written projects.

### ***Inside and Outside***

K mentions “in” and “out” like J does. There is something here. In her second frame of her process illustration, she includes music notes, the title “Have Yourself a Merry Little Christmas” and her ear, a partial frame of her glasses. There’s no body like there are in other frames (at least including to a stick figure of her to her waistline). Is the music part of an internalization, a mental process of hearing that doesn’t involve the body?

### **Memo: Connections Within Emerging Categories**

**Date: July 26, 2013**

This schema<sup>3</sup> works from a causal paradigm. As I have it set up, it almost attributes student resistance to revision to their histories with how they conceptualize various mediums and how they work, especially as students have perceived agency in the revision process. If revision is only corrective, fixing, and “right” then students perceive it as unnecessary, esp these students who typically do well without revision anyway. They largely identify writing as they’ve learned what it means in their AP English and (some) History classes. Those notions of “right” writing become a benchmark for what is happening in this class.

Not sure the “histories with sound” really fit where I put them. That should probably be more with the “real” in audio revisions as J, MK, and Me talk about the power of audio. Me and MK talk about talk as a medium of invention and organization. J talks about music as a channel for spiritual connection.

<sup>3</sup> Refers to photo of slips of paper rearranged into a conceptual outline.

Although I don't think technology anxiety necessarily impacts written revision, I do see it impacting the audio revision process. MK as the extreme case, only recording once and calling it "done," so she doesn't have to worry about messing it up. R also mentions how her lack of knowledge of advanced audio editing skills impeded her ability to do more exact revision in her work. And L talks about technology anxiety as well (even though she does more layering with her tracks than MK does.) L does concede with some features of her voice and/or AR<sup>4</sup> that aren't quite like she wants them because she's unsure about the technology.

Class discussions, inquiries about the assignment, discussions with other students, and characterizations of their work in interviews feel like students negotiating features of a unique genre. They ask questions about dimensions of the project as well as lock onto the "writing for the ear" characteristics A provides. And in interviews, students compare their AR with each others (we heard K's in class...) as a way of making sense of their own. It's almost as if the group is trying to define the genre in the process of remediating. But there are problems b/c there isn't a specific genre that is assigned here, nor are there clear across-the-board features that are present in each student piece. Some are narrative, some reflective, some fit both categories. Is the genre partially defined by its use of modal affordances? or the speaker-writer's investment in his/her project?

There seems to be a general sense (esp post-production) that the AR is "fun" and "modernizing" the English classroom; however, students still provide heavy emphasis on the written artifacts that accompany the sound files. This is, of course, due to A's emphasis on that in the grading weights. But I also wonder how much of that is tied to students' histories of having literate performances perceived in writing.

I'm struck by the written-sound connections in ways students conceptualize the AR, "seeing," "organized," "show," recording a video log. At first it seems odd, but then I think of how writing is visual. It is a visual mode where a reader can look at see the entire text at one time (even if he/she can't turn pages to view it all). Writing is spatial; speaking is temporal (Ong). So, what is the impact of students trying to conceptualize sound through writing. Well, several mention the value of writing is that it can help you organize and conceptualize your ideas to get them down. And over time, edit and refine them until you can see how they are connected. So, by mentally thinking of sound in visual ways, does it provide a hint that students are leaning on their visual-spatial writing skills when approaching this AR?

As far as the AR is concerned, MANY students rely on their writing histories and practices to create a "natural" sounding AR. They write to make it sound natural. Ha! One even writes that she "writes to see how it sounds." It does make me wonder what they mean by natural. "Natural" Is another in vivo code. Because many are drawing from the

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<sup>4</sup> AR refers to audio revision project.

“writing for the ear” characteristics as a way to consider what sounds natural. Others are basing it on their histories as talkers and what features that involves (stammering, pauses, disorganized ideas). Even J who pointedly talks his AR provides a written first version for A of what he says. Since audio is temporal, is there a sense that an audio only project, without practices and activities that communicate writing will be “lost” in time or that there wouldn’t be evidence of it after an initial hearing?

“Portrayal” is def an in vivo code in this study. Several talk about it, and some with convey as well. To portray is to get a message across; this draws attention to the medium as an avenue for sending the message. It also communicates distance between the writer-speaker and listener. Conveyance is “with” or sharing which is a different positioning. J uses this when talking about music and spirituality (I think) which is interesting. To convey is to share the message.

Students value the “personal” “raw” and “real” in these AR. What is meant by personal? In descriptions of pieces that exhibit the personal, J talks about a silence that happens in that piece’s reception, namely as it really takes risks and is connected to the speaker-writer. The message is uniquely tied to him/her.

Several participants point to music as a mode through which speakers and listeners can connect. Music can create a mood. And in listening, listeners are internalizing that music, connecting with it (in R’s case even having the music “in her head”). Music becomes a channel through which the writer-speaker can access into the past, stories, moods, and emotions. And those listening can likewise connect with those ideas. I don’t sense that music is as mediated as the voice, except in cases where the students sing the music (MK, Me, and R). And their embarrassment (?) discomfort with music they sing comes out as laughter in relistening to it; R even points to my presence as the cause for her sensing it is “tacky.”

“I don’t like how my voice sounds” is where my study started, but that seems too simplistic. Hearing our voices differently in audio than in our heads is scientifically explainable. But I think it’s more than that. Can’t reconcile logically that our voices sound differently within our heads than without? Yet, student after student commented on how disorienting this practice is. Several even talk about recognizing the words coming “out” when recording. There’s this sense that they see their voices as disembodied in the act of capturing them in the recording. And listening back to those strange voices confirms that disembodiment, as it comes out in the dissonance between their self-perception within and without.

Is this what encourages students to record in private? They willingly write in public places, choosing to spend class time writing cover letters and annotations. If they recorded in class, they found quiet places in the hallway or in another bldg to do so. and those that recorded out of class, the majority found quiet places (quiet meaning away

from others...not necessarily without sound) to record their voices. Bodies playing with audio the day they learned Audacity were hunched over machines creating body walls to isolate voices.

Their voices do not sound like themselves. And I sense that students don't know whether or not to think their work is adequate in this AR until they share it. Those who share and receive positive feedback (K, B, R) find the experience rewarding and feel personally affirmed by their peers (do they?)

Remediation points to purposeful shifting from one medium into another. Students certainly gain a sense of characteristics of modalities in this shifting; those who participated in my study became the most vocal in class discussions about the relationship between writing and writing for the ear (commenting more and revealed in A's interview). They wrote cognizant final reflections and cover letters with ideas about modal affordances and impacts on their ideas that were largely affirmed in similar comments in secondary interviews, suggesting it wasn't just a "performance" for the sake of a grade.

The act of remediation remediated more than the text though; student perceptions of revision, moments in their past, their present state, and implications for future composing emerge as well. I have to wonder if translating the previous text into a new mode with a different set of composing affordances and (uncertain) communally-defined genre impacted student reflection. Did these features (all or some) create an opportunity for reflection (rather than polished sound editing performance) that A intended. And when A mentions it, I suspect she means the piece itself. In this, I see reflection on a larger scale. The student repositioning himself/herself in his/her past, present, and/or future.

Positions....where do students place themselves in this remediation?

In writing (namely AP writing), students are subservient to teacher who operates under standard genre/discipline guidelines (namely analysis).

In sound, students position themselves differently based on their histories. J is within sound--creating an AR that channels his laminations of music as a channel for praise. B is outside of the computer, putting the AR in (see # of illustrations of computer as compared to her). K is without and within, hearing the music in her piece within and a body composing the narrative without. R shifts, beginning as a careful performance and transitioning into a messy, inner voice. MK is outside of the computer altogether, recording a minimal version of her story as victim to her lack of self-efficacy with technology. Me?

Ma is a distant commentary out of time that has content projecting her behavior in a class where she's already finished acting that way. It becomes a rationale of sorts, and simultaneously a way of participating in a non-dialogic "punch" to a community she found unable to talk with her.

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**Memo: Exploring One Emerging Category**

**Date: July 26, 2013**

**Synesthesia: Conceptualizing Sound through Visual-Spatial Metaphors**

Sounds illustrate when they trigger memories with associated images. Sounds aren't drawing pictures outside of the mode itself, but they "illustrate" by connecting with mental images. And in image, illustration, we find coherence or explanation. A's *Radio Lab* example "illustrated" and "showed you what they were talking about." So, the talking has less permanence as it enters and exits the sound waves, the air, but the image is lasting. How do we capture a sound and hold it to memory? Sounds are temporal and as such have elusive locations in our minds, especially with memory. Interesting that K mentions reading things aloud "because it does tend to help with memory and things like that" (second interview).

Several participants talk about needing to organize their AR by writing them or outlining them prior to speaking them. Even J who speaks his casually, pre-writes it and characterizes speech as "choppy," "systematic," "less organized." L talks about writing as "seamless" another visually grounded concept.

Although not conceptualizing sound, M talks about saying "This is a stupid thing but like there's this one part where I quote something, and for me, reading it with just the parenthesis around it, I don't automatically think, "Oh, I need to say quote before it. So, I had to like put that in my actual revision, so like I remembered to have it while I was reading it" Really echoes to me that even as M is working in sound as a modality, she's really still so bound to image-word as the foundation of this remediation. Readers should be able to "see" the quotation marks around the passage, so they know it's not M trying to pass off someone else's ideas.

R talks about "not being used to showing people [her] thoughts" another visual reference (second interview). I wonder about this phrasing because to "show" someone your thoughts isn't to provide access to them but to have thoughts as an object for others to witness, rather than a direct link.

Probably the most surprising link is the number of students who wrote prior to recording their AR. In doing so, they're relying on writing as a visual way to refine and organize their ideas in a visual way prior to remediating them into digital speech. K talks about

this when she says “I wrote to see how it sounded” (cover letter AR). To visualize a sound is to conceptualize one mode through another, to “see,” to take in, to test, to try out, a new mode in a familiar mode which you are well attuned to reading and understanding. And using methods and techniques of writing (visual methods of rearranging, adding, deleting in an atemporal artifact) to refine a sound.

This reminds me of this excerpt from Selfe’s “Movement of Air”: “They continued to make reference to the oral qualities of language, but often metaphorically and in the service of writing instruction and in the study of written texts (the voice of the writer, the tone of an essay, and the rhythm of sentences) (Yancey; Elbow, “What”, qtd in Selfe “Movement”).” Students in this class reference “writing for the ear” and do so by pointing specifically to textual features referenced in class (sentence length, word choice, mood, rhythm).

It strikes me too that in A’s assignment design is so print-centric that it encourages students to make sense of a new modality, a remediation, through their roots in written discourse. Connection to --> “we privilege print as the only acceptable way to make or exchange meaning, we not only ignore the history of rhetoric and its intellectual inheritance, but we also limit, unnecessarily, our scholarly understanding of semiotic systems (Kress, “English”) and the effectiveness of our instruction for many students.” (Selfe, Movement)

Me writes, “I have started to notice sounds less through my ears and more through eyes; the cause of the noise draws my attention more than the noise itself” (final reflection) Noise is also mentioned in this artifact as something that can be distracting, countered by her choices to use writing as a way of organizing her ideas. Noise is functioning in the first as a semiotic sign and the second as a metaphor, yes? And Me’s “seeing” is a reference to a growing awareness. If we grow aware through seeing, through sight, is this pointing to our reliance on that modality as a means through which we make sense of our worlds. If noticing sounds through your ears is less aware, then what is it...coexisting, transparency. So, has sound become less transparent when we can conceptualize it visually, as a mode which we utilize for composition and as a part of our soundscapes / environments? As a modality, sound is elusive and temporal. Conceptualizing sound visual-spatially provides a way to “capture” and “represent” the elusive.

Remediation causes the media to be less transparent.



## APPENDIX G GLOSSARY OF TERMS IN ANALYSIS CHAPTER

**disembodiment:** dissonant moments characterized by discursive separation of body from their minds, indicating a disconnect between their material experiences and psychological responses (e.g. a student's own recorded voice in virtual audio fostered a sense of disembodiment in their perceptions of their spatialized voices, independent and autonomous, when interacting with their listening bodies)

**dissonance:** pattern of students' responses that described a range of discordant materials, practices, and attitudes encountered during written-aural remediation, especially when paired against other materials and practices

**reflexivity:** students' understanding of a cause and effect relationship between their perception of an object and its impact on their perception of self, specifically when students recognize the significance of a semiotic resource and in turn understand its influence on their attitudes or practices

**resonance:** student perceptions of resources that are "deep, full, or reverberating"

**remediating self:** an evolving consciousness, or reflexivity, in discourse that reflects a shifting sense of self in terms of attitudes and properties, results in experiencing a remediation of self through reshaped perceptions of semiotic resources, including students, that reflected learning

**semiotic synaesthesia:** conceptual remediation that is characterized by instances when students describe or approach one modality through discursively employing features or practices from another modality

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