Chapter 18. Multimodal Methods for Mapping Multimodal Composing Processes

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Ever since I was small, I was told I was a visual, hands-on learner. I have always been the student with every color pen, multiple sets of post-it notes or flashcards, and a whiteboard with notes and diagrams scrawled all over it. So, it is really no surprise that I found my way into researching multimodal composing processes. During my doctoral program, as part of my dissertation research, I began studying the fashion program at a mid-sized, Midwestern state university with the specific goal of understanding multimodal composing processes. I had a desire to explore how non-alphabetic compositions go from inspiration to final product, and my interest was driven by my hyper-awareness of the materiality and multimodality of my own composing processes.[1] I wondered how my own use of different tools, techniques, and materials mirrored those of the fashion design students or how multimodal composing processes overlapped and intersected with other composing processes.

Early on, I began to realize how difficult it would be to capture what I call the complex ecology of composing through the methods that I had been implementing–namely surveys, interviews, and collection of completed projects. There remained a gap between the goals of my research and my methods. I was falling victim to trying to understand multimodality from a frozen, static form, which erases the dynamic nature of the processes that create those forms. So, I searched for methods that would help me capture that dynamic whole (Shipka, "Toward" 28) of multimodal composing processes and account for "the material and social considerations that are always in flux with composing" (Johnson 14). I soon realized that to attend to multimodality in the processes themselves, I must collect data that records as many of those modalities as possible to accurately analyze and represent those processes.

To provide the breadth and depth necessary to capture the complexity of multimodal composing processes and digital writing, this chapter narrows in on

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1. Though my research has focused primarily on multimodal composing processes, I believe the work I have done and the methods I have employed can also applied to digital writing research because, as Shepherd contends, "Digital writing and multimodality are deeply intertwined. It is difficult to think of examples of modern…digital writing spaces that do not use multiple modes to convey information to readers simultaneously" (103).

ways to attend to the multi-sensory experience of composing by focusing on the implementation and evolution of multimodal methods, i.e., methods that collect multiple streams of data simultaneously and allow researchers to attend to the multi-sensory experience of composing. This chapter narrativizes the evolution of multimodal process interviews, which were born out of in-the-moment, collaborative experiences with my participants and inspired by feminist interviews and multimodal think-aloud protocols.

On Multimodal Composing Processes

Using a definition of literate activity that includes "many streams of activity: reading, talking, observing, acting, making, thinking and feeling as well as transcribing words" (Prior "Writing Disciplinarity" xi), Paul Prior calls to the forefront the need to examine composing processes and literate activity as networked actions. Along this same vein, Pamela Takayoshi asserts that "studies of composing processes easily might have been bounded at one time by a focus on a single individual with a pen and a paper, but contemporary forms of writing are not so easily bounded, as writers engage in virtually every form of writing . . . are entangled in sometimes vast networks of other writers, other texts, and other composing processes" (14). Takayoshi's argument harkens to the notion that composing processes function at networks of actions where each participant, human and non-human alike, impact and shape the processes. Hannah Rule suggests that "situating processes" pushes back against conventional views on process as simply those moments of inscription (6). Lucy Johnson makes a similar contention when arguing that composing is always material and multimodal and calls researchers "to expand our conceptions of available resources—understanding the ways in which bodies, places, and actions can all be cultivated as resources for contending with an enacting multimodality as process" (22). Taking these contentions into account, as digital writing researchers, we should recognize not only the act of inscription but also the impact of thoughts, emotions, motivations, cultural perceptions along with interactions between human and non-human participants.

Prior and Jody Shipka argue that studying writing processes in this way is directly centered on our Environment-Selecting and -Structuring Practices (ESSPs) and is the act of selecting, structuring, (re)structuring, shifting, shaping, and transforming the material and social world around us. We use these external aids to help direct our consciousness and enhance our focus on the task at hand. This can be choosing types of tools for composing, repurposing a software program or app for your own purpose, or selecting a certain place to work, to name a few. ESSPs become central to their understanding of composing as they "highlight people's situated agency, their tuning to and of environments, their making of artifacts of all kinds" (228). Participants' discussions of ESSP's demonstrate the affordances of incorporating different tools, objects, materials, and environments into our composing processes. Moreover, this notion of ESSPs expands the scope

of composing process research by examining the impact that human and nonhuman actors have on our composing processes and how we might perform activities that funnel into our composing processes and shape the final composition. Therefore, focusing on ESSPs highlights the many objects, tools, and actors that mediate writing and composing, thus further constructing the network of composing. ESSPs were of particular interest because of my awareness of my own habits and tools that weave their way into my composing processes. Further, I believe that recognizing ESSPs connects with my belief that we must recognize the impact and agency of nonhumans within the network of composing. Thus, my research has built upon the work of Prior and Shipka in that the multimodal compositions my participants created were not solely a product of one dimension of composing, they were a sum of many tools, materials, experiences, environments, people, and circumstances.

Similarly, Shipka contends that composing process research should focus on the process of making and the becoming of a text rather than attempting to discover the "whole truth" of composing processes or even the possibility of the "truth" of a single individual's composing processes ("Toward" 38). Shipka also argues that this is beneficial to the field because "attending closely to processes of making . . . helps illuminate the highly distributed, embodied, translingual, and multimodal aspects of all communicative practices" ("Transmodality" 253). This viewpoint shifts the study of composing processes because it asks for researchers to account for more in the world, to see more, to reconstruct the notion of composing, to move beyond the traditional notion of what it means to be "in process." Using this argument, she sees the act of folding laundry to unlock the mind as part of the composing process; she sees a student's visit to Walmart as an act of brainstorming and research for a project. These moments all play a role in the ecology of composing. Using a framework for examining composing processes, and subsequently, digital writing, that sees these processes as complex ecologies of humans, nonhumans, objects, materials, tools, and environments, I contend that scholars in writing studies must find ways to attend to these many factors when research digital writing and multimodal composing processes.

On Researching Multimodal Composing Processes

The foundation for most of my research on multimodal composing processes began with my interests in the "becoming" of texts but also theories of mediated action and distributed notions of agency. Using a framework for understanding composing processes inspired by the work of Laurie Gries, Alex Reid, Nathaniel Rivers, and Jane Bennett, my larger project aimed at exploring composing processes as complex ecologies or networks of humans, nonhumans, objects, materials, tools, and environment. Thus, each of my participant's multimodal composing processes was viewed as an assemblage (Bennett) or compositional network (Reid) because of this framework for composing processes. Moreover, viewing

composing processes as assemblages or compositional networks further encourages researchers to see how composite objects like multimodal compositions are formed by the collaborative relationship between human and nonhuman actors.

Because of the relationship between humans and nonhumans and their respective agency, I believe that it is necessary to value the voice of my participants as well as bring attention to the ways that nonhumans participate within any composing processes. In recognizing the agency and voice of all participants within composing processes, my research is influenced by a sociocultural lens that dictates that all activity within a system is mediated by other actors within the system. Thus, no individual's actions can occur without a relationship or reaction with other participants within the ecology of composing.

Exploring Multimodal Methods

The methods discussed in this chapter were born out of a larger study on the multimodal composing processes of fashion design students. The study and definition of multimodal compositions has been an everchanging landscape even though composing processes and multimodality have been intertwined long before multimodal took a conceptual foothold in writing studies. As Jason Palmeri argues, composing has always already been multimodal as process researchers have viewed writing processes "as a deeply multimodal thinking process that shares affinities with other forms of composing (visual, musical, spatial, gestural)" (25). Multimodal compositions are so complex as texts because they are structured by the modes they employ, the affordances of those modes, and the context in which they are being composed. Further, they often involve tools, techniques, materials, and skills that are typically outside of Writing Studies expertise. These factors often make multimodal compositions and composing challenging for our field to understand. Lynda Walsh contends that

> Research on visual inscription practices in particular is finally building momentum after a long lag behind other communication-studies fields—perhaps because there was something initially about visual communication that seemed by definition to fall outside writing studies. But our field can now boast a substantial body of work on visual inscription, particularly in the arena of science, technology, engineering, and math (STEM) writing, where graphics dominate the page/screen. (4)

Scholars have studied adolescents constructing digital stories and videos (Hull and Nelson; Nelson, Hull, and Roche-Smith; Vasudevan, Schultz, and Batemen; Yang), graphic designer's processes (Graham & Whalen; Steiner), and interior design processes (Smagorinsky, Zoss, and Reed) as sites for multimodal compositions and composing. Others have even begun to discuss the variety of texts that can and should be under the purview of multimodal compositions

including composite objects like ballet shoes with writing on them (Shipka) and clothing (Manthey). Writing studies has wrestled with the complexity of multimodal composing processes and visual communication through literate activities and practices, mediational means, design studies, and visual rhetoric theories. My own work attempts to follow suit with the work that Walsh highlights as well as extend the work and theories by providing data about multi-material multimodal composing processes from fashion design students that blend digital and tactile modes.

Further, multimodal composing processes of fashion design students are useful for our understanding of multimodality and digital writing because fashion design is not dominated by print, alphabetic texts and has a unique perspective of processes that have been multi-material and multimodal since their inception. This multi-materiality is evident not only in the final products these fashion design students create (garments, sketches, process books, and final portfolios) but also the wide variety of tools and materials incorporated in the creation of these products.

While multimodal composing processes in fashion design are not equivalent to composing processes and digital writing, fashion design processes have similar goals to digital writing processes. Fashion design students compose and convey messages and purposes through products and texts just like students writing in the composition classroom. Bridging the gap between fashion design and writing studies is further supported by Shipka's contention for a "communications approach" to writing studies that values and sees the relationship between writing and other modes of communication and representation. Further, as Takayoshi and Derek Van Ittersum contend, "writing is always and always will be a material process of making, crafting, composing" (84). Fashion design is, in many ways, the epitome of a material or rather a multi-material process that is driven by making and crafting material messages through clothing, sketches, mood boards, process books, and portfolios.

One goal of this larger study, and what I believe should be a goal of digital writing and composing processes research, was to capture the dynamic whole of composing. By capturing a wider view of composing, I believe that we can obtain a clearer understanding of the vast array of resources and habits that writers, composers, and designers incorporate into their processes. To capture the dynamic whole, I used multiple "multimodal methods"—i.e., methods that collect multiple streams of data simultaneously and allow researchers to attend to the multi-sensory experience of digital writing and multimodal composing processes as well as attend to the various participants within the network of composing (materials, tools, objects, environments, humans, and nonhuman actors).

By utilizing multimodal methods and collecting visual, sonic, oral, and tactile data, I was attempting to avoid what John Trimbur recognizes as how "the major images of writing from the process era neglect the materiality and visuality of writing" (191). Therefore, I employed multiple streams of data to provide a "less

partial and more detailed understanding" of multimodal composing processes (Takayoshi 6). The multiple streams of data for the larger project included: classroom observations, interviews, multimodal process interviews, process sketches, reflections, project walk-throughs, and artifact collection. Takayoshi explicates that "this methodological variety provides a range of perspectives on literacy *as it is practiced*" and that "composition studies' research on individual writers in the moment of composing, provides a richer understanding of literacy [and composing] as a situated practice" (2). Thus, multilayered, multi-tiered, and multimodal data collection has allowed me to see more complexity in each case study's composing processes and further capture the dynamic whole of multimodal composing processes—and I believe of digital writing as well. Of this variety of methods, this chapter will focus primarily on the evolution of the multimodal process interviews and the methods that supported them.

Interviews

As part of my recruitment for the multimodal process interviews and as a means of obtaining more contextual information, I completed a series of initial interviews with students in the fashion design studio course. These interviews allowed me to better understand the ways that the students themselves interact and feel with their classroom, their context, and the program itself. They also served as an opportunity to ask them to participate in the multimodal process interviews and were essential for cultivating better relationships with potential participants. The primary goal of the initial interviews was to provide data about the participants' perceptions of their multimodal composing processes, with a specific focus on their tools, materials, environments, and habits that participate in their processes.

One issue I found with these interviews was approaching students to be interviewed in the first place. Had I planned more carefully I would have figured out a better method for recruiting during this phase other than awkwardly approaching students during classroom observations. Awkwardness aside, my status as a regular fixture in the classroom (I had been observing the class since early in the semester) afforded me the ability to approach the students in the first place. I also imagine being a white, cisgendered woman who often is mistaken for an undergraduate made me relatively nonthreatening. Further, my status in the classroom also altered my approach with students. I was in a grey area where the students saw me as simultaneously a peer but also as akin to an instructor because of how the relationships grew with my participants during observations but also how the instructor of the course positioned my presence (sharing with the class that I was a researcher and often including me in class discussion).

Because of my status in the classroom, these interviews were more of "active interactions between two (or more) people learning to negotiate contextually based results" (Fontana and Frey 646). I began with the guiding questions but also allowed the conversation to flow naturally and asked supplemental ques-

tions to further my understanding. I asked my participants about their typical composing habits, what tools they preferred to use, what practices they use for beginning their projects, how they research, and where they find their inspiration for their design work. As with all other aspects of my data collection, I aimed for these interviews to be "reciprocal, and often intimate, shaping of information . . . . fundamentally influenced by the material realities and situated perspectives of multiple partners" (Selfe and Hawisher 37), which was aided by my participants' comfort with my presence and my own positionality within the classroom.

Using these interviews, I recruited three participants to participate in the multimodal process interviews based on convenience samplings. All three participants expressed interest in my project and agreed to participate. These participants were not necessarily representative of all fashion design students at this university but represent examples of some aspects of multimodal composing processes rather than a complete picture of one singular truth of multimodal composing.[2]

Multimodal Process Interviews

Throughout this larger project, the multimodal process interviews oversaw the most serendipitous changes. Originally, when collecting data of each case study participant's process, I intended to have my participants complete multimodal think-aloud protocols (Walsh), which would have them record traditional think-aloud protocols to coincide with the video and/or screen capture I was recording of their processes. Think-aloud protocols are typically used to record concurrent verbalizations of the cognitive processes associated with completing an action. Participants are asked to speak their thoughts out loud as a stream of consciousness. Peter Smagorinsky contends that think-aloud protocols are useful for the study of composing practices because they "can yield significant information about the structures of the processes" (465). He also argues, along with Elizabeth Daigle, O'Donnell-Allen, and Bynum, that think-aloud protocols are useful for tracing processes over multiple sessions of writing.

Walsh argues for think-aloud protocols as a "joint activity between" researcher and participant and that while the participant controlled the activity, she allowed dialogue between them, including requests for feedback from the participant or clarification questions from the researcher (9). Thus, my multimodal think-aloud protocols became a multimodal think-aloud instructional interview hybrid that

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2. I will note that even though all three of my participants self-identified as female, it was not my intention to only study female students. I originally had a fourth self-identified male student who dropped out of the study. Conversely, my participants did represent a variety of perspectives in terms of race, religion, and socio-economic background. I believe that each of my participants' unique experiences and histories influence their composing processes.

I have deemed multimodal process interviews, which were comprised of audio recordings of verbal interactions between the researcher and participant, video and screen capture of actions within and beyond the screen and session field notes by the researcher. These multimodal process interviews resembled Cynthia Selfe and Gail Hawisher's feminist interviews in that they "were resistant . . . to the boundaries of single-session conversations" (39) and were more of an extension of our interactions from the time I observed them in class where my participants were conversational and instructional while working and describing their processes. Gloria Jacobs argues that "observing people . . . provides deeper insights especially when observations are followed by interviews" (335), thus the hybrid nature of the multimodal process interviews, where interview, think-aloud protocol, and observations meld together, offers a layer of understanding that one of these methods alone could not provide.

This shift from a multimodal think-aloud protocol to a multimodal process interview was a natural evolution and primarily dictated by my participants— they asked the questions, they provided instructional explanations, they spoke in tangents, they engaged with me as they felt comfortable, which aligns with my beliefs of valuing the voice and positionalities of my participants. One even admitted that the traditional think-aloud protocol format was intimidating: "I was thinking about it because I'm like oh no I'm going to have to be thinking about what I'm doing. Normally, I just kind of do it, subconsciously I guess, and not really think about it." Because of this evolution, multimodal process interviews were made up of narrations of the participant's actions woven in with their interactions with other individuals within the space in natural conversation and questions they had for me, which made these observations feel more organic and similar to classroom and studio observations. Others had a more difficult time with narrating and discussing their work, so I had to prime them more often with questions to get them to talk. Some participants were more conversational and often had tangents discussing completely unrelated topics which required me to ask directly about the work being completed. Some even took an instructional approach where they were explicating their actions to ensure that I understood what task they were completing.[3]

The most fulfilling and interesting part of the evolution into multimodal process interviews was the transition between researcher and "interested other" in that my position became one of "asking participants for elaboration [and] encouraging them" (Selfe and Hawisher 42) because these sessions became more organic and better resembled the ways that my participants worked during class time or individual studio time. While this transition is evidence of the effect of my presence on my participants' processes, I believe that since there is no one singular truth nor one singular multimodal composing processes, any new actor (human

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3. Many of these moments can be viewed as part of the videos that appear later in this chapter.

or non-human) being present would shift or shape their processes. Smagorinsky et al. note that, in their study, the think-aloud protocols they collected from Susan "included conversations between her and occasional visitors (her friend, her family members)" (377), so the interaction between the researcher and participant or the participant and other people within their spaces is not abnormal.

At the time, the evolution into multimodal process interviews felt almost like a mistake or a potential downfall of my study, but, in retrospect, it was ideal for the goals of my research. Not only did our observations feel more organic, but they were also very similar to the classroom observations I completed as part of the larger study. Moreover, the evolution as participant-driven aligns with my desire to honor and value my participant's perspectives and voices. Had I pushed the more rigid plan I intended for the think-aloud protocols, that participant who felt intimidated by the structure might have been entirely derailed from her "typical" processes. The evolution to the more interactive and instructional multimodal process interview serves as evidence of my participants being comfortable in my presence, as well as the presence of the camera, to interact normally with their peers. This level of comfort made the data collected during observations seem more authentic.

Collecting and Capturing: Video and Screen Capture

One of the biggest hurdles with multimodal process interviews is deciding which tools to use for capturing each session. I found myself questioning what camera should I use? Does camera selection even matter? I quickly learned that the answer is always yes. Some situations require different tools and technologies to capture as much as possible of the given situation. Thus, for my larger project, depending on what acts of composing each participant chose to do during each session, the session was either recorded solely on video or using both video and screen capture. Utilizing video, screen capture, and audio provided multiple layers of data for each composing session and allowed me to work towards capturing the dynamic whole. In her assessment of data collection methods for capturing composing processes, Takayoshi notes that screen captures are a more comprehensive, layered approach grounded in the moment of composing. She contends that these approaches allow us, as writing studies researchers, to gain a more complete understanding of the act of composing (6) as both video and screen capture provide videos that can be played back, spliced, reversed, and saved in chunks or as still images.

For video recording, I used two cameras—a Canon T3i and a GoPro. Looking back, I would not recommend using a Canon T39 for video recording because of issues I had while recording, which are further explicated in the Trials and Tribulations section of this chapter. On the other hand, the GoPro was a good choice for a secondary camera for two reasons: its portability and the video angle. The ease of moving the GoPro allowed me to follow the participant if /when they chose to move spaces or rooms. The wide-angle of the built-in lens allowed

me to capture more environmental space than a standard camera lens.[4] Based on these experiences, I would recommend that researchers are far more careful in their camera selection than I was. However, I realize that many researchers, like myself, must make their camera choices based on access to technology. As a graduate student at the time of this study, I did not have the funding for a camera of my own, so I relied on borrowing my partner's Canon T3i and GoPro Hero 3 (both of which were dated at the start of this project). If I had the funding, I would have done more thorough research on video recording and selected other newer options.

As Landon Berry and Brandy Dieterle have noted, it is often necessary to use multiple cameras and multiple camera angles to capture the entire environment in which the participants are acting and to make all aspects of the composing process as visible as possible. For my study, each camera was placed at a different angle to the participant's workspace to best capture the space and the movement of the participant within the space. Figures 18.1 and 18.2 show an example of one camera set up I used during a multimodal process interview. The goal was to capture multiple sides of the dress form while the participant was working so that as she moved around the dress form, my focus when analyzing could follow her movements and avoid the issue of not being able to see her actions on the recording.

Figure 18.1. Sample Camera Set-Up

4. A wide-angle lens on a standard camera could also achieve this.

Figure 18.2. Sample Camera Set Up

Videos were used for situations when the participant's composing processes occurred beyond the computer screen. However, in situations including both digital and tactile forms of composing, I recorded the screen and videoed the actions outside of the screen.[5] By using both video and screen capture, I could correlate or connect actions performed in both the digital and physical environments. This dual recording permitted me to see other actions at play, such as the materials, objects, and tools the composer is employing as well as the nature of the environment around the composer. Capturing the environment using video is evocative of Rule's use of video to record her participants in their natural writing environments. Moreover, by both recording the screen and the environment around the screen, I worked to respond to the problem in digital writing research of ignoring the actions beyond the screen or the immediate actions of the composer. Observing and recording the environment in which the processes are cultivated and occur works to recognize the network of composing surrounding the processes.

For screen capture, I used either QuickTime or OBS Studio to record their laptop screen. QuickTime was used because of convenience since most of the

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5.   Using a handheld digital recorder, I also audio recorded the multimodal process interviews to collect better quality audio than recorded by either camera or to serve as a backup for if audio failed on any of the other methods.

fashion design students owned a MacBook and QuickTime is a default program that supports screen capturing and audio recording simultaneously with limited difficulty or set up time. OBS Studio was used for screen capturing when the participant owned a PC and is an open-source software that can be used for screen capturing and audio recording as well. OBS Studio was particularly convenient for selecting only certain aspects of the screen that needed to be recorded as well as allowing for recording multiple screens in a dual monitor set up. Unlike QuickTime, OBS Studio requires time for downloading the software, initial program setup, and individual screen capture/audio recording set up. Both programs are extremely useful for screen captures as they have no limitations on the length of screen capture and are adaptable to many situations. As software primarily used by video gamers for recording their streams, OBS Studio offers a greater variety of screen capturing abilities including the ability to record multiple screens and/or sources. After this project, I would recommend OBS Studio over QuickTime because of these features despite the extra time for set up.

The primary benefit of video and screen capture is that they highlight the material, digital, and visual nature of writing that is often omitted when using solely voice, cognition, and cognitive data collection methods. They also provide data that more clearly represents and reproduces the multimodal, multi-sensory dynamic whole of composing process including an expanded view of the moment of composing and insight into how the designer/composer/writer employs ESSPs by altering, shaping, and shifting their environment and tools to better suit their composing needs.

Session Field Notes

Another layer to the multimodal process interviews beyond the video, screen capture, and audio recording was taking field notes during each session. Some might question the necessity of being in the space with the participant during the multimodal process interviews; however, there are two primary reasons for being present: 1) being in the room, observing, and taking field notes provided another layer of data to triangulate and supplement the video and screen capture data; and 2) I could provide tech support for the video, screen capture, and audio that was being collected. Also, as seen in my discussion of the multimodal process interviews, my presence is potentially what altered my data collection and encouraged my participants to resist the bounds of the traditional think-aloud protocol. However, I would still recommend being present when using video or screen capture.

My session field notes were inspired by Clay Spinuzzi's discussion of naturalistic observations where he took detailed field notes about the "work environment . . . interactions with others . . . interactions with texts . . . [and] movements from one space to another, along with any artifacts they took with them and artifacts they used in each space" (371). Since multimodal composing processes,

and digital writing processes, do not solely happen within a computer screen or a video frame, screen capture, and video cannot record all that happens within a space. As part of the field notes, I also attempted to provide cues that would allow me to "sync" the field notes with the actions on the video or screen capture. After the observations were completed, I transcribed the field notes from my hand-written notes and jottings into full descriptions of each observation to use later in coding.

Streamlining

After collecting the data from the multimodal process interviews, I was faced with a hurdle that I should have anticipated—having multiple streams of data of a singular moment of composing and correlating which actions happen simultaneously. Thus, before analysis, I decided to streamline all the data to make analysis a more fluid process by editing the multiple video angles or video/screen capture combinations for each observation into single videos using iMovie software. This streamlining process did not include eliminating any data from any video or audio source, but it did allow me to transcribe and later codes to video the actions being performed from different angles or sources simultaneously rather than each data stream separately. Choosing to combine and streamline the multiple video angles and data sources was more for convenience rather than coming from any methodological standpoint or even guidance from other research projects. My primary goal was to make the transcription and coding process as straightforward and comparable as possible; however, I believe that editing the multiple angles and sources together allowed for a better understanding of the network of composing as more actions and environment were visible at once. Further, the ability to watch back moments on the screen with the actions outside the screen more closely resembles my own experience of observing the actions in real-time. Thus, streamlining the data streams into a single source became essential to my success.

From streamlining, there were multiple variations that I generated: video/screen capture combo, video cutaways, picture-in-picture, and side-by-side video. Each of these layouts had its own benefits and drawbacks. Figure 18.3 shows a screenshot of a video/screen capture combo.[6] By combining the screen and the video, I could see not only how the participant used their mouse, keyboard, and other tools outside of the screen as well as tools to work within the bounds of the screen as well. For example, in Figure 18.3, the video and screen capture combination allowed me to see how this participant was using the Wacom drawing tablet to control different sketching and painting tools in Illustrator or Photoshop on the computer while simultaneously using the keyboard and touchpad to change brushes, move windows, and select parts of the sketches (you can see this video at https://youtu.be/toaF__ps4Cw).

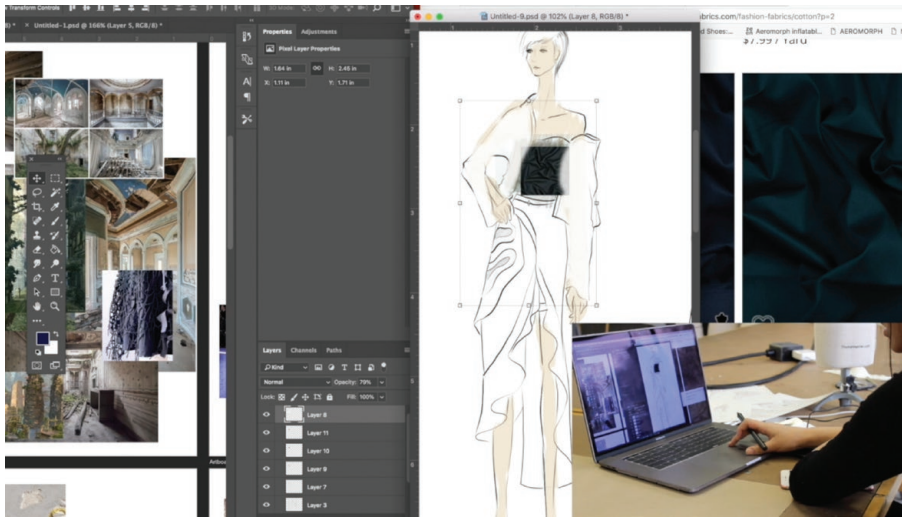6. All media in this chapter has been reproduced with the consent of my participants.

Figure 18.3. Video/Screen Capture Combination

As with the video/screen capture combo, the multiple video angles were also edited together. Depending upon the action happening within the frame, videos were either edited as cutaways with only one video visible, as a picture-in-picture video (see Figure 18.4) or as a side-by-side video (see Figure 18.5). The single video or cutaways were used in instances where only one angle of the video was usable. The picture-in-picture format was useful for instances where the entirety of each frame needed to be visible, though one frame is significantly smaller than the larger and slightly blocks part of the larger frame. For example, in Figure 18.4, we can see both an over the shoulder view of the participant's work in the bottom left corner but also a view of her work from across the table as the majority of the screen. When editing these videos together, I was cognizant of the placement of the smaller video to not block out any actions or environmental factors. Conversely, the side-by-side format was useful for instances where the positioning of the participant and the action within the frame allowed me to zoom and only show a portrait cropping of the side of the original frame by side.

In the video at https://youtu.be/QivAcUSEiX, which corresponds with Figure 18.4, I was able to see how this participant worked on her patterns from both aforementioned angles which allowed me to have a more complete view of her actions. In Figure 18.5, the dual video angles allow us to see the participant's movement around the dress form without the view being blocked with the left side showing the front and the right showing the back. Also, the multiple angles allow for a better view of which part of the project they're working on at different times. Her movement around the dress form and the benefit of the multi-angle view can be seen at https://youtu.be/EyWf6epIi6A.
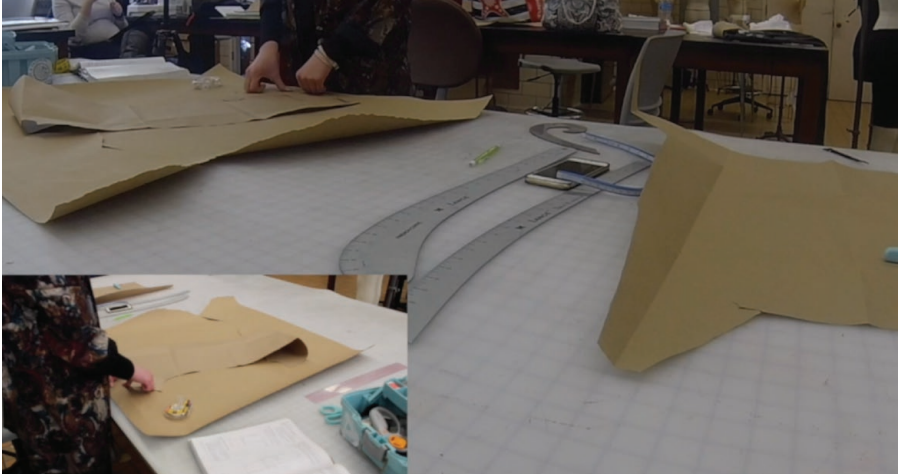
Figure 18.4. Picture-in-Picture Video

Figure 18.5. Side-by-Side Video

Trials & Tribulations of Recording and Streamlining

As with all research, especially research on multimodal composing and digital writing, these methods do not come without their trials and tribulations. One of the primary limitations or issues I had with these methods was selecting and using the camera. First, though I chose to use multiple cameras to collect data

from different angles, I became aware that the eye of the camera is not without blind spots. There were moments where the participant left the camera frame or reached for something outside of either camera's view. Unfortunately, these blind spots are inevitable and cannot be entirely avoided.

Along with the limitations of camera frames, I also had issues with the recordings themselves. For instance, the Canon T3i proved to be a poor choice in camera because of problems with video recording as it wouldn't record for the full hour without stopping. To attempt to fix this issue, I had to restart the camera recording every 10 to 13 minutes to keep it from shutting off entirely without my knowledge. This led to momentary lapses in the data collection, but typically these lapses were less than a few seconds. Unlike the Canon, the GoPro could record for the entire time without stopping, if the battery was charged, and the memory card had enough space. However, in neither case did I end up having a single video file from either camera since the GoPro automatically broke the video into multiple files, which had to be combined during streamlining.

The primary issue with the multiple video clips for each session came when trying to streamline each multimodal process interview into a single video. I not only had to verify that the clips from the main camera (the Canon T3i) were in order, but I also had to sync those clips with the clips from the GoPro. I also chose to use the audio from the handheld recorder rather than the camera audio, so that file had to be synced with the video files as well. In retrospect, the process of combing and streamlining all these various data streams together was more tedious than I expected and required more time than I expected as well. However, the ability to view, code, and analyze all the streams of data from a single multimodal process interview simultaneously proved to be worth the tedium of streamlining.

Supplementing the Multimodal Process Interviews

Even though multimodal process interviews offer a wealth of data about multimodal composing processes, they cannot stand alone as a data collection method. To supplement the multimodal process interviews, and to capture as much as possible of the dynamic whole of multimodal composing processes, I continued my data collection after the multimodal process interviews. These methods include post-session reflections, final interviews, process sketches, final project walk-through, and artifact collection—each of which served to complement and provide more context to data from the multimodal process interview.

Post-Session Reflections

After each multimodal process interview, participants completed a reflection to gauge their emotions and perceptions about the work that just occurred. For my larger project, there were three reflections per participant. In this case, I asked the participants to reflect on questions like "how do you feel about the work you

completed today?" "Did you feel productive? Or unproductive?" "Where does this work fit into your overall process?"[7] The purpose of these reflections was to gauge each participant's reaction to their work that day. Perceptions of productivity or lack thereof help with understanding how the participant felt about that day's work and if they felt the work done was typical or atypical of their "normal" workflow, which gave me insight into potential differences in processes across the multimodal process interview sessions.

Final Interview

After all multimodal process interviews and post-session reflections were completed for all participants, I interviewed each participant one final time. These final interviews were semi-structured and served as a roundup and final touchstone for understanding the multimodal process interviews and the participant's processes. Each participant reflected on the work they completed as part of this project and compared it to what they believe is their typical work and process. Also, they added a layer of triangulation between data points during the coding and analysis process and created a richer, more dynamic understanding of their processes.

Process Sketches

After completing the final interviews, my participants completed two final reflective activities; the first being a process sketch. Process sketches are drawings or diagrams completed by the participant that represent their processes. Prior and Shipka argue that asking participants to sketch out their process allows participants to negotiate what it means to be "in process" and what tools, environments, and activities are central to their process (185). For the process sketches, I was curious about what each participant integrated into their sketches but also how these process sketches might align or differ from their explication of processes provided in the interviews and observations of processes in the multimodal process interviews. The primary benefit of these sketches was seeing the thread of their processes come into view with each new layer of data.

In this case, I asked each participant to sketch their process and narrate their process while sketching. These sketches were audio-recorded, and screen captured and completed on an iPad Pro with an Apple Pencil using the Adobe Sketch application (see Figures 18.6 and 18.7). By having these process sketches completed digitally, I had a permanent copy of the sketches and the opportunity to screen capture the sketch being completed. Screen capturing and audio recording the participant's narration of the process sketch added a multi-dimensional, active layer to the already multimodal nature of the process sketches, as seen in a video at https://www.youtube.com/watch?v=7iL26o8ZbHc.

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7.   Many of these questions were inspired by Spinuzzi's observation-based questions.

Project Walk-Through

The final data collection method used was the walk-through of the finalized composition, which for all my participants was a process book and fashion portfolio. Depending on the final form of their process books and portfolios, these walk-throughs were either videoed or screen captured as well as audio recorded. This allowed me to align their narration and discussion of their projects with the physical location within the project itself. During the walk-through of their completed project, each participant reflected on the work they did and the decisions they made. My participants used this opportunity to discuss design inspiration, overall design choices, individual page content and design, and reflect on their overall process of creating the garments, process book, and final portfolio. Moreover, these walk-throughs allowed me to compare these reflections with their actual composing processes-in-action and my own analysis of those composing processes. As with the process sketches, the walk-throughs provided a reflective, multi-dimensional layer to the final multimodal compositions.

Artifact Collection

Along with the process sketches, reflections, and project walk-throughs, I also collected other artifacts related to each participant's multimodal composing processes. Spinuzzi contends that artifact collection is necessary to "keep track of what the participant touches, reads, writes, and uses. Especially look for artifacts that they use repeated, customize, . . . or hand off" (loc. 2137). Most of the artifact collection included photographs of tools, materials, and completed projects. For example, I took photos at the end of each multimodal process interview because seeing the progress between sessions is valuable for tracking progress across time, especially time not recorded (Figure 18.8). In retrospect, I wish I had taken more photos, including some at the beginning of each session because these photos served as references for where this session took place in the overall construction of the process books and portfolios as well as the overarching multimodal composing processes.

I also took photographs of each completed process book and portfolio to create a digital reconstruction (Figure 18.9). For one participant, their final book was entirely digital rather than tactile, so I was able to obtain a PDF copy of the final project rather than reconstructing it myself. Recreations or copies of the final projects not only demonstrated the evolution of different elements of the project observed during the multimodal process interviews. They also aided in understanding what the participant valued or liked enough from the process book to include in the final portfolio as well as any other versions of designs that were composed outside of the multimodal process interviews.
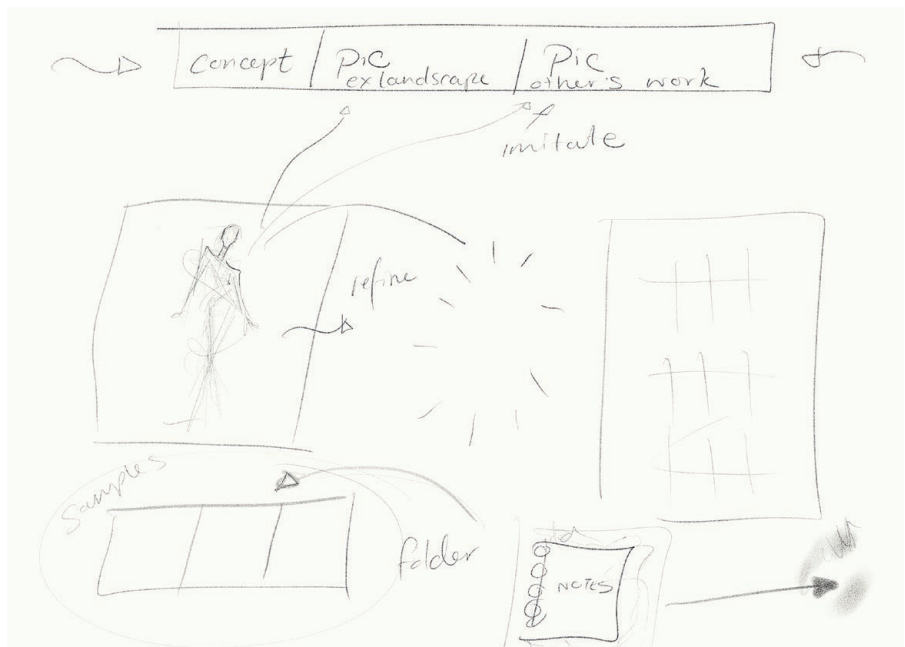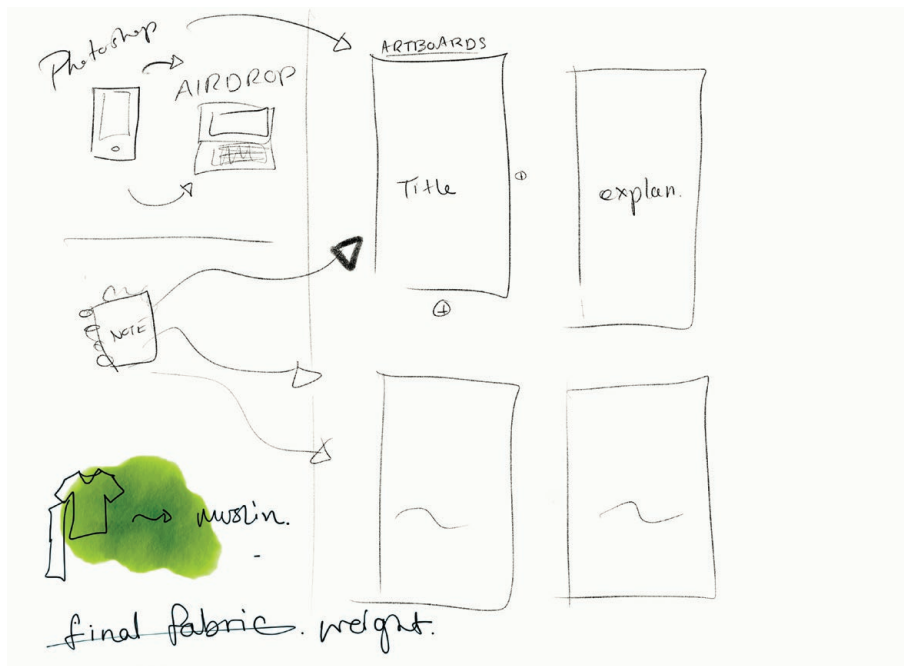
Figure 18.6. Sample Process Sketch

Figure 18.7. Sample Process Sketch

Figure 18.8. Artifact Photograph Example

Figure 18.9. Process Book Page

Recommendations for Implementing
Multimodal Process Interviews

This chapter has addressed how a multilayered, multi-tiered approach using multimodal methods can permit researchers to capture the dynamic whole of composing processes. Particularly, I focused on the use of multimodal process

interviews as the primary data collection methods for researching multimodal composing and digital writing. The key takeaway I hope that other researchers of digital writing, multimodality, or composing processes find from this chapter is to be ready for the moment when methods seem to fail and must be modified to collect or capture a new situation or experience and to value those moments when your participants take the lead on sharing their processes. Had I not allowed the multimodal process interviews to naturally come into being by forcing my participants to strictly adhere to traditional think-aloud protocol standards, I may have missed out on many ESSPs or other composing habits of my participants. Multimodal process interviews are a highly appropriate and valuable method for examining multimodal composing processes and digital writing because of the dynamic, multi-faceted and multimodal nature of the data produced and truly work towards allowing writing studies to capture the dynamic whole of these processes. However, they are not without fault or flaw, so I call on other researchers to employ these methods in their own studies of digital writing and multimodal composing processes to validate the effectiveness and utility of these multimodal process interviews beyond the scope of my study.

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