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The pursuit of haptic-ness: Exploring the significance of a haptic reflective practice in graphic design education

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The pursuit of haptic-ness: Exploring the significance of a haptic reflective practice in graphic design education

A thesis submitted to the Graduate School of the University of Cincinnati in partial fulfillment of the requirements for the degree of

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by

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Abstract

In an age where we can avoid hand-drawing and hand-making for the sake of convenience and timesaving, it seems we might prematurely be abandoning them. The benefits of drawing and writing by hand on cognitive development and concentration are numerous, and research supports that developing a reflective practice is rewarding for personal and professional development. Students in traditional design schools, specifically the field of graphic design, are educated with high emphasis on technical production skills—yet what is absent is instruction for developing a reflective practice that links design projects, lived experience, tacit knowledge, and generative ideation toward the robust development of successful design outcomes. More specifically—and the focus of this thesis—is the opportunity for the inclusion of a haptic reflective practice in graphic design education. Such a haptic reflective practice, which includes drawing and writing by hand, has the potential to support students in bridging implicit awarenesses with tangible knowledge outcomes in the design development process. Through an examination of literature from the fields of qualitative research, education, and art and design, and the author’s own haptic reflective practice involving drawing and writing as inquiry methods, this thesis explores an under-championed haptic reflective practice in graphic design education. As the initial step in building a rationale for a future case study, this project exemplifies practice-led reflection-on-action to demonstrate a graphic design student’s journey from tacit understanding to informed intuition in the design development process.
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Introduction

Is having a graphic design experience—composing a logo, creating a typeface—sufficient for making lasting meaning? In the creative process, internal mechanisms of thought eventually seep up to the surface as intuitions of breakthrough and insight. While these emergentawarenesses are important, they are often fleeting—and perhaps never actualized. It is through the process of externalized reflection that these tacit understandings are afforded the opportunity to become embedded knowledge that will benefit the designer practitioner in the future. Engaging in reflection through haptic activities like drawing and writing by hand allows tacit understanding to become more tangible for a person; for they are, in effect, becoming an audience to their own ideas. Encoding and articulating emergent thoughts through haptic practices crystallizes the nebulous and so often unspoken knowings of a designer’s process.

Inspired by personal experience and intuition and guided by existing literature from the past thirty-odd years, and anecdotal evidence from professors and peers in the Master of Design program at the University of Cincinnati, this thesis reflects an embedded passion and reverence for the power of writing’s tactility, drawing’s capacity to exist as a language in itself, and an informed realization of what’s been missing in my own design education and literature on reflective practice. In sum, hand-drawn writing and drawing reflective practices are embodied acts that not only require a sustained level of concentration and focus, but in turn also engage a synthesis of thought, action, and recollection—an experience that embeds meaning in the act of making.
Purpose

The purpose of this thesis is to champion the application of a haptic reflective practice in graphic design education for the improvement of meaning-making and knowledge assimilation from the design process. Specifically, the objective of this research is to review existing literature on reflective practice, writing- and arts-based research, design education, drawing and handwriting, and examine my own haptic reflective practices and to make recommendations for graphic design education. Theoretical perspectives of phenomenology and writing as inquiry form the analytic foundation for the investigation of connections among reflective practice, haptic expression and meaning-making in graphic design education. The conclusions presented are aimed at benefiting becoming-graphic designers’ design methodology and sense of understanding of their own practice by solidifying the inchoate and implicit nodes of meaning that emerge throughout the design process. Importantly, this thesis seeks to disrupt binaries between writing and drawing practices—pursuing instead, the cultivation of a site of reflection on lived experience, the construction of meaning through haptic practices, and their entwinement with the practice of design.

Limitations

This thesis stands as a systematic inquiry and a qualitative exploration with ethnographic elements, though it is perhaps best characterized as a single case study that contains the elements of a literature review, a self study of my practice as a graphic designer/illustrator/researcher, and contextual observations from my education environment at the University of Cincinnati, Master of Design program. Single case study
analyses “provide a nuanced, empirically-rich, holistic account of specific phenomena” (Willis, 2014, para. 14). The ability of the single case study to hone in on a precisely defined area affords the research to have “a level of detail and understanding, similar to the ethnographer Clifford Geertz’s (1973) notion of ‘thick description,’” meaning that both the phenomenon and its context are illuminated, making the study more meaningful to outsiders (Willis, 2014, para. 2). Because of the single case study’s inherent subjectivity, the concepts of external validity and replicability are less useful than other criteria applied to systematic inquiries. Instead, the term validity may be productively foregrounded in a single, qualitative case study. As researcher Patti Lather (1993) has argued, the concept of “validity” is an “incitement to discourse” (p. 674) that compels researchers to move beyond binary constructs of truth. Therefore, following from qualitative researcher Jeffrey Alguinaldo’s (2004, p. 130) social constructionist study, this research of haptic reflective practice reformulates questions of validity, moving from “Is this valid research?” to “What is this research valid for?”

Responding to Alguinaldo’s query of research validity, this study seeks to articulate the value of haptic reflective practices in design education. To this end, a critical analysis of research literature provides credibility and a sustained examination of the researcher’s own design education experiences help build trustworthiness (Guba & Lincoln, 1994) in this inquiry. While replicability is not alleged here, there is an assertion that qualitative case studies providing fine-grained, vivid details of practice are uniquely valuable for formulating a rationale for a future, larger study. In short, the limitations of this study in regards to its replicability and generalizability are carefully considered. However the contributions of small-scale qualitative studies, such as this single case study of
haptic reflective practices, are well-documented in the literature (Denzin, 2000; Leavy, 2009; Lather, 1993; Raein, 2005) as vital components of research that aims to enlarge understanding of human experience.

Contextual Background

“Developing students' design ability is a universal goal of any design program” (Hoh, 2016, p. 4). As such, this project’s unique contribution is developing ability to express one's ideas, articulate one’s ideas with greater clarity and precision, and make connections across domains over time. Geared toward industry preparation, graphic design curriculum in higher education spotlights skills on aesthetics and mediated production, churning out deliverables with repetitious frequency. In a word, the emphasis is on designing—the design process and technical skills. The tools used for ideation (sketchbooks, pen, pencil) and concept development have largely remained analog (although digital drawing tablets attract graphic designers with their mouse-superior sketching abilities and real-time editing), though the design output is overwhelmingly mediated. What stands to be included is a reflective practice, one that embraces the same tactile, haptic condition that defined graphic design prior to the introduction of personal computers, styluses and digital tablets. Such a reflective, hand-expressed practice is not solely design-specific, but it speaks to the nature of holistic design education, and represents a foundational approach for an elevated human condition—one that can exist in and benefit diverse professions. In the context of this thesis, haptic is synonymous with hand-drawn and hand-written. Specifically, haptic

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1 “The concept development phase is an early phase of the design process, where the idea generation and development for a given design project occurs prior to actually creating the visual design layout using hand-rendered illustration or computer design software” (Brewer, 2011, p. 1).
writing denotes composing text by hand with instruments and media not limited to pencil and paper—a linoleum cutter and a cantaloupe can, for instance, function fittingly. Haptic drawing, here, describes both haptic drawings (Vengua, 2014)—the marks made on a surface guided by sensorial stimuli (sight/sound/touch/taste/smell/and memory)—and more representational, visual representations of an object or idea.

Methodology

This inquiry was conducted using a single case study method with ethnographic elements (Geertz, 1973; Stake, 1995; Baxter & Jack, 2008), a self-guided examination of my practice as a graphic designer/illustrator/researcher, and anecdotal observations from mentors and peers in the Master of Design program at the University of Cincinnati. I conducted a multi-part literature review (examining, synthesizing and reflecting on textual discourse and research on reflective practice theory, the history of design education, handwriting, and hand-drawing for the purpose of drawing connections among the various categories and formulating a rationale for the significance of a haptic reflective practice in graphic design education). The method through which I formulated my insights from the literature derives from sociologist and qualitative researcher Laurel Richardson's (2003) legacy of writing as a form of inquiry. Moreover, articulating and externalizing my insights through the act of handwriting and composing/drawing/arts-based expressions offers a unique perspective that is underrepresented in the landscape of design and qualitative inquiries (Raein, 2005; Tokolahi, 2010).

Reflexive Narrative

I believe my kinship with haptic knowing and embodied meaning-making
consciously began as a kindergartener, tracing the sand-papered swooping cursive letterforms with my index finger in my Montessori classroom. Since then I have generally embraced the title of technology rebel, always opting to hand write notes in class, electing snail mail and chirography when- and wherever possible, and ever striving for my work to exhibit personality and handcrafted charisma—versus computerized sameness. Until I knew graphic design had a name, the fine arts (drawing, painting, and sculpting) held my complete ardor and focus. From the time I could hold a paintbrush, I took lessons in the fine arts, honing my artistic skills while attending a creative arts magnet program from ninth to twelfth grade. Junior year of high school I was formally introduced to graphic design through a summer program at the Savannah College of Design, and from there pursued a degree in graphic design and digital imaging in undergraduate studies. Because of my intense regard for the humanities and an interdisciplinary education, I chose to attend a liberal arts college with a graphic design program.

In the second semester of my freshman year of college (Spring 2012) I chose to take “Plants” as my First-Year Seminar (an interactive course taught by a professor who had ongoing research interests in the topic or theme). Part of the course’s requirements were to keep an illustrated journal of class notes, botanical drawings, and plant pressings. I would get lost in a “meanwhile” flow state when I would take my longhand notes from class and transfer them onto the pages of my journal, distilling the content into more digestible and illustrative blurbs and diagrams. I remember the eager anticipation I felt when I thinking up ideas about how I would illustrate a concept, what font I would use, and how I would treat the text to emphasize a certain point. I would pencil the pages in first, and then go over the outlines with Micron pens of varying weight. This course officially introduced me to the
concept of visual journaling and catalyzed my interest in the process of synthesis through embodied mark-making. See figure 1.

The following two semesters (fall 2012 and spring 2013) of college I explored the same method of visual journaling in my Art History courses, in which I created illustrated journals to document, synthesize and better understand the material covered throughout the course. See figures 2 and 3. At the beginning of the second semester of my second year, I was inspired (with encouragement from my Art History professor) to participate in a research conference, investigating the concrete advantages of writing and drawing in making meaning from context and increasing memorability. See figure 4.
Figure 2. Two-page spread from Art History I visual journal (2012).

Figure 3. Two-page spread from Art History II visual journal (2013).
With the support and mentorship of my Art History professor I participated in the Spring 2013 BigSURS (Big South Undergraduate Research Symposium) held on High Point University’s campus. Using my own experience with illustrated journals as inspiration, my research poster summarized the importance of taking notes by hand, how the physical act of putting pen to paper increases information retention, and how combining notes with illustrations leads to further memorization. It received first place in its category (Education).
In the first semester of my second year of college I took an Introduction to Graphic Design class and it was there that I—without consciously being aware of it at the time—engaged in a reflective writing assignment that was wholly illuminating to my creative process. I share a sentiment with graphic designer and reflective practice proponent J. Ciampa Brewer (2011) in the observation that “...in most American educational programs, we moved quickly from project to project, from semester to semester, without much time for reflecting on how we arrived at our design solutions and what we learned from our processes” (p. 2). And, like Brewer (2011), “I recall most of my design class critiques being focused on the product outcome, the visual layout choices made by the student, without much discussion first on the thinking that occurred in the concept development process” (p. 2). Engaging in a reflective inquiry into the creative decisions made after the design process—in what would be considered an out-of-action reflection stage (Shumack, 2010)—forced me to pause and thoughtfully consider why I pursued the design direction that I did, and to provide a rationale for every design decision, from color choice to typographic selection to the message conveyed in the logo created. Although this method of reflection was not entirely haptic (the final description was typed), the act of textually encoding implicit revelations from the evolution of the design process added a layer of complexity and understanding unparalleled from simply going through the motions of designing. And while this was an isolated experience from my undergraduate career, it planted within me the desire to grow more attuned to my creative process, the motivation to share my insights with other becoming graphic designers, makers and practice-based careers, and the impetus for this thesis.
Scope

First, this thesis considers the theoretical framework of reflective practice theory and phenomenology, in service of its support of the proposal of a haptic drawing and writing reflective practice in graphic design education. In doing so, an explorative investigation of design education from the pre-Industrial Revolution era to modernity illuminates the link between reflective practice, design thinking and haptic practices, as well as the erosion of the haptic connection in art and design education over the past 50 years. Third, the reflective practice-related branches of writing as inquiry, writing as composition, practice-led research and phenomenology are considered, through a literature review, as alternative tools and methodologies for facilitating discovery and reflective inquiry. These elements are followed by a review of the literature of handwriting and drawing research and practice—illustrating the value of handwritten expression and offering drawing’s potential as a salient reflective practice. Analyzed together, these explorations of reflective practice, handwriting and drawing literature point to potential, fruitful connections among reflective practices and haptic writing and drawing endeavors. Specifically, these connections hold promise for enhanced critical understanding of classroom- and project-based experiences, enhanced self-awareness (through personal development and introspective analysis), and improved ability to learn from experience. A discussion of significant findings from the survey of literature comes next, as well as insights and thoughts from my own reflective practice and design education. To conclude, immediate next steps are discussed, as well as speculations about where this research may lead in the future. This inquiry joins a budding conversation by the zeitgeist on the value of reflection in design education. With its emphasis on the significance of a haptic reflective
practice, though, this research aims to uniquely position itself in the dialogue by citing the power of hand-drawing and -writing for crystallizing understanding and embedding meaning in a designer’s practice.

This research builds upon a lifelong interest in and passion for meaning-making through hand-made graphic expressions. Rather than present recommendations for a specific implementation of a haptic reflective practice, I offer a position of support for haptic processes of writing and drawing that could potentially enrich existing conversations on reflective practice in graphic design education. To this end, I focus on the traditions of reflective practice methods in design education, while observing the current state of contestation and flux in design curricula. The project undertaken in this thesis is to develop a foundational rationale for a future case study of haptic reflective practices in design curriculum.

Opportunity Statement

In an age where we can avoid hand-drawing and hand-making for the sake of convenience and timesaving, are we abandoning them prematurely? The benefits of drawing and writing by hand on cognitive development, concentration and affect are abundant (Adams, 2014; Alcorn, 2015; Ashton, 2014; Belkofer et al., 2014; Cain, 2010; Have & van den Toorn, 2012; Smolarski et al., 2015; Vengua, 2014). Research findings from education and psychology scholars support the development of a reflective practice because of the benefits it can hold for both personal and professional development (Boud, 2001; Currano et al., 2011; Currano & Steinert, 2012; Doloughan, 2002; Drake & Hodge, 2015; Mewburn,
Students in traditional design schools, specifically the field of graphic design, are educated with an emphasis on technical production skills and aesthetic studies—yet what is lacking is instruction for developing a reflective practice that links projects, experiences, abstract ideas and individual achievement with concrete knowledge and understanding that informs future design decisions. Rather than a problem that elicits reactive mediation, there exists an opportunity for becoming-graphic designers to engage in a practice that will ultimately benefit their professional work and personal perceptions.

Often, when written reflection is assigned to students in design disciplines there is resistance to complete such assignments, for they distract from the act of designing (Borg, 2012). However, modes of reflection aren't limited to the written word (Bacon & Midgelow, 2014; Keller & Helfenbein, 2007). Indeed, dance, visual arts, and photography have been studied to offer ways of reflecting on lived experiences and solidifying tacit understanding (Bacon & Midgelow, 2014; Keller & Helfenbein, 2007; Wald et al., 2010). Through an extensive examination of literature from the fields of qualitative research, education, and art and design, this thesis explores the under-championed application of a haptic drawing practice in graphic design pedagogy for the purpose of reflecting on learned experience.

Literature Review

Reflective Practice Theory

The following is a survey overview of reflective practice theory, literature on
reflective practice and methods of facilitating reflective inquiry (especially in relation to design), for the purpose of investigating relationships among reflective and haptic processes.

Part of the literature defines reflective practice as conscious, subsequent engagement in thought (Shumack, 2010; Tokolahi, 2010), or as a subconscious event, generative for sparking new ideas (Currano & Steinert, 2012; Currano et al., 2011). The range of reflective practices and activities is studied in a wide scope of participants—from a healthcare practitioner to design experts. One segment of the reflective practice research focuses on its individual applications (Boud, 2001; Currano & Steinert, 2012; Currano et al., 2011; Shumack, 2010; Tokolahi, 2010) and another on the pedagogical and generalized application of reflective practice theory (Doloughan, 2002; Mewburn, 2010). One group of literature exclusively explores journal-based reflection (Boud, 2001; Shumack, 2010; Tokolahi, 2010) while another surveys a range of reflective activities (Currano & Steinert, 2012; Currano et al., 2011). Still, in all cases, the reflective practices were haptic.

According to Currano and Steinert (2012), “there are two main paradigms within which researchers study the design process—design as rational problem solving, and that of design as a reflective practice” (p. 270). Research on reflective practice is guided by the reflective practice theory of philosopher and urban planning professor Donald Schön, who asserts: “a vital attribute of all effective practitioners, no matter in what area they operate, is that they are able to reflect on their ongoing experience and learn from it” (Boud, 2001). Schön’s reflective practice theory was inspired by “the writings of John Dewey, a pioneer in education reform and psychology,” who proposed “that reflective thought is active and deliberate thought” in his 1910 masterwork How We Think (Brewer, 2011, p. 7). According
to Schön, reflection-in-action (RIA), reflection-on-action, and reflection-on-practice are three separate phases of reflection that happen during the design process. Reflection-in-action entails metacognitive thinking: while engaged in a task (but without disrupting it) a designer will think about the activity at hand “in such a way as to influence further doing” (Shumack, 2010, p. 2). Reflection-on-action occurs either following a task or during a “pause in the midst of the action to... 'stop-and-think’” —though in both situations “the reflection has no direct connection to the present action” (Shumack, 2010, p.2). During reflection-on-practice, the designer acknowledges and critically assesses his or her normalized habits and potentially adverse design choices. Finding that positivist traditions favored by researchers from the late 19th century were insufficient for revealing qualitative aspects of meaning-making, Schön (1983) “sought to revalue the ability of practitioners to act and to reflect on tacit knowledge” (Borg, 2012, p. 7) by identifying the concepts of reflection-in-action and reflection-on-action.

Schön (1983) attested that “practitioners may become reflective researchers in situations of uncertainty, instability, uniqueness, and conflict... Here the exchange between research and practice is immediate, and reflection-in-action is its own implementation” (pp. 308–9). Schön (1983) also coined the term action-present to describe the “time in which action can still make a difference to the situation,” and depending on the nature of the activity and the practice, the duration of the action-present which can be anywhere from moments to months (p. 62). As Shumack (2010) elucidates, “time, context, and personal experience” represent “key factors in the way [Schön's] reflective modes might be used to inform a design process” (p. 2).

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2 Positivism describes the view “that only scientific knowledge is the true knowledge of the world perceived through senses (the observable phenomenon)” (BusinessDictionary.com, 2017).
representations of his theories to help the reader understand,” Wainwright et al. (2010) illustrate the “cyclical nature of Schön’s stages of the reflection process” (Brewer, 2011, p. 10). See figure 5.

While RIA offers a method for intentionally reflecting on a current design task, Currano, Steinert, and Currano et al. (2011, 2012) ascertain that there are at least two other categories of reflective practice in addition to Schön’s spectrum: reflection-out-of-action (ROA) and background reflection. According to results from their previous studies, there appears to exist “a distinction between design-productive reflection within and outside of the context of explicit design activity” (Currano & Steinert, 2012, p. 270). While ROA occurs within the action-present state, it “happens out of the workplace and the context of work activities...” for example, while “at home while making food, or while chatting with friends over coffee” (Currano et al., 2011, p. 7). Closely associated with ROA, background reflection occurs “during routine physical activities...” such as jogging or showering, when the mind is disengaged from what one is physically doing (Currano et al., 2011, p. 7).

Reflective practices can be framed in two categories: direct and indirect. According to Currano et al. (2011), direct reflective practices, “such as sketching design ideas... are
more tightly centered on the immediate design problem at hand, and less readily tempt the mind to wander off into more contextually distant associations or more temporally distant memories,” while indirect reflective practices, like going for a walk, “are more loosely centered on the immediate design tasks, and more explicitly allow the mind to wander both contextually and temporally, since they expose the senses to stimuli which are more mundane and therefore associated with a broader set of past experiences” (p. 7).

To substantiate the significance of these underappreciated reflective practices and bring attention to the influence of context, Currano et al. (2011) found that nearly 77% of design experts reported “being engaged in non-work-related activities at the time their ideas came to them,” and only 16% of the designers reported generation of ideas during work time (p. 7). Yet, since ROA and background reflective practices are so removed from the hustle and focus of traditional workspaces, it is easily imaginable that designers would be deterred from engaging in them during working hours. Currano et al. (2011) state that their “ultimate aim is to use and integrate reflective practices, even sub-conscious ones such as ideation when showering, in a conscious way to improve ideation” (p. 9).

As Currano et al. (2011) speculate, the unconscious is an equally important, though less acknowledged and accredited, aspect of the reflective process. Meek (2003) elucidates that “an important aspect of the reflective process is not fully in awareness” and that, though “we worry about giving up conscious control, even for a little while... it seems likely that this may be exactly what is needed” (p. 4). Meek (2003) presents six ideas for helping to open up our minds while not fully in awareness, including: making repeated passes at the same material, breaking up the material spatially and temporally, and gaining perspective on the material by utilizing creative visualization.
Currently, there appears to be a gap in the research findings on the quality of ideas generated from ROA and background reflective practices. While the significance of reflective practices presents itself multifariously (in design ideation, in meaning-making, and in personal and intuitive growth), in this abridged scope of the literature, what is missing is a consideration of the design concepts arrived at through indirect, tacit reflective processes. There also appears to be a difference in interpretation of the meaning of reflective practice. Reflective practice is described by some designers (Currano & Steinert, 2012; Currano et al., 2011) in terms of idea generation, as “an activity that you engage in, which helps you think through design situations and leads you to new insights or ideas” (Currano & Steinert, 2012, p. 272); by another (Boud, 2001) it is explained “as a device for working with events and experiences in order to extract meaning from them” (p. 1). Thus, there appears to be a lineation between reflective practices for the purpose of design idea generation or for theoretical meaning-making on behalf of the practitioner.

Abridged History of Design Education

What do reflective practice, design thinking and haptic drawing/writing have to do with one another? “Reflection is the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences; learning is the creation of meaning from past or current events that serves as a guide for future behavior” (Daudelin, 1996, p. 39). Reflective practice is a method of reflection as it’s defined above, “in professional or other complex activities as a means of coping with situations that are ill structured or unpredictable,” as is generally the nature of design problems (Moon, 2004, p. 80). According to Schön’s (1983) reflective practice theory,
the design process can be categorized into three phases of reflection: reflection-in-action (RIA), reflection-on-action, and reflection-on-practice. Reflection-out-of-action (ROA) and background reflection represent two additional conditions of reflection that occur “outside of the context of explicit design activity” (Currano et al., 2012, p. 270).

Design thinking, the framework pioneered by global design firm IDEO in 2009 is ever burgeoning today at higher institutions and places of business (Miller, 2015; Wallwork, 2015). Design thinking is succinctly described by professor and dean Peter Miller in The Chronicle of Higher Education (2015) as:

“...an approach to problem solving based on a few easy-to-grasp principles that sound obvious: ‘Show Don’t Tell,’ ‘Focus on Human Values,’ ‘Craft Clarity,’ ‘Embrace Experimentation,’ ‘Mindful of Process,’ ‘Bias Toward Action,’ and ‘Radical Collaboration.’ These seven points reduce to five modes — empathize, define, ideate, prototype, test — and three headings: hear, create, deliver. That may sound corporate and even simplistic, but design thinking has been used to tackle issues like improving access to economic resources in Mongolia, water storage and transportation in India, and elementary and secondary education and community building in low-income neighborhoods in the United States” (para. 4).

Design thinking can also be interpreted as an approach to assessing a situation and, through experimentation and insights, the invention of an idea or solution. It “has been shown to be a successful method to encourage the generation of new concepts during the front-end of innovation,” and as such, has been speculated to utilize reflection indirectly, especially through ROA and background reflection (Currano et al., 2011, p. 1). Currano et al. (2011) surmise that in ROA and background reflective activities, “there is a clear separation
between the reflection and the design work, noted by the location (in the shower, in the park) and/or the background activity (showering, doodling, jogging),” and that such activities are founts for gaining insights and productive ideation (p. 3). Coincidentally, the design thinking process is, in a way, contrary to the method graphic design is taught. Graphic design educators generally attribute “significance solely based on what can be designed based on deductive reasoning,” and students are widely instructed that “they must have a ‘concept’ first before making anything, rather than allowing the creative act to play out and then teasing out or narrowing focus to the desired intent after the act of making” (Cabianca, 2009). Design thinking offers graphic designers a way of ideating and creating through inductive reasoning, shifting their focus from serving as “polishers” to problem identifiers and solvers.

Haptic writing and drawing’s nexus with both reflective practice and design thinking is one that is seemingly understated. Such haptic practices are a part of reflective inquiry and design thinking, and yet their value has only outwardly been elevated and observed in encapsulated movements and fragmented outposts over the course of design education history. For instance, the educational approaches of the Bauhaus, Sloyd (slöjd) system, Black Mountain College, and Montessori and Waldorf schools represent such camps where a haptic/tactile/embodied approach to learning and knowledge acquisition is (or was) embraced (Hoh, 2016; Healy, 2016; Noe, 2016; Lillard, 2005; Prouty, 2008).

“Design education, as we know it today, emerges from a rich tradition of the transmission of practical training, method and trade–specific experiential learning ... Historically, ‘designers’ were a product of artisans and trades people creating artifacts in response to human need... These artisans often employed apprentices to be trained into
the craft by the way of learning through observing, copying and marking” (Hoh, 2016, pp. 13–14). Thus, the first design educators were artisans, and apprentices were the first design students.

Prior to the Industrial Revolution, design education followed an artisan-apprentice model with a focus on the transfer of skill and fine quality of craftsmanship. The artisan-mentor exerted complete control over the training, leaving the apprentice without any design autonomy. With the entrance of the Industrial Revolution in the late 1700s came modernization and the subsequent replacement of numerous craftsman industries and production processes. The artisan-apprentice framework was bypassed by mechanized hands, and consequently workmanship and quality of goods were adversely affected. In response, the Arts and Crafts movement emerged, swinging the pendulum back to the conscientious hand-craftsmanship of artisan design.

The Arts and Crafts movement arose in Britain around 1880 and spread across Europe and North America. Over the next three decades, links were established between education and industry, while “design education still maintained its focus on observation, copying and making and not on the development of creative self-expression” (Hoh, 2016, pp. 13–14). Between the 1890s and the First World War, design emerged as its own separate discipline—distinct from art education—with the establishment of the Bauhaus. The German-born institution specialized in craft workshops and meshed “the theoretical curriculum of art with the practice-based approach of arts-and-crafts schools in an attempt to eliminate barriers between the two disciplines” (Hoh, 2016, p. 16). Due to the 1932 Nazi siege in Germany, the Bauhaus underwent a reconfiguration, resulting in the replacement of life drawing courses with design fundamentals courses. The ultimate
dissolve of the Bauhaus in 1933 resulted in global dissemination of the Bauhaus ideology as its instructors and students emigrated (“Bauhaus Berlin,” n.d.).

In the United States, design education was catalyzed with the founding of the National Association of Schools of Art and Design (NASAD) in 1944. Established in New York with the intention to “promote the exchange of ideas and to consider the broad problems of art and design education,” NASAD originally included 22 schools (including the University of Cincinnati) as charter members (Hoh, 2016, p. 17). In the seventy-odd years since its inception, NASAD “has assumed increasing responsibility for the development of educational standards in art and design, and contributes to the spirit of mutual understanding and respect that exists among schools and departments of art and design throughout the country;” its membership has grown to include nearly 350 “free-standing art and design schools, college and university art/design departments, and artists and designers from all regions” nationwide (“History,” 2017). A testament to its high standards, NASAD is the only accreditation institution recognized by the U.S. Department of Education over both art and design fields (National Association of Schools of Art and Design, 2016).

“After 1945 graphic design courses evolved in art colleges, technical colleges and polytechnics, and the trained designers moved into the steadily expanding field of publication design, advertising and television, as well as corporate design for trade and industry” (Conway, 1987, p. 136). The 1960s witnessed design education “encourag[ing] experimentation in media and materials, increasing the academic core of art and design education through the study of the history of art and complementary studies” (Hoh, 2016, p. 17). It was also during the mid- to late-20th century that literature on design
methodology began to amass with substance, and design as a singular discipline dawned at universities—“a result of cultural and economic change that stimulated interest in design as a mode of cultural and economic advancement,” which in turn sparked “a demand for designers to work in newly developed fields” (Hoh, 2016, p. 17).

Though it perhaps represents an oversimplified observation, there appears to be a correlation between the Arts and Crafts movement proponents’ desire to return to hand-driven making/embodied design and the crux of this thesis. Indeed, prior to computers, styluses and digitizer tablets being the standard tools of the field, students and professionals of graphic design created everything by hand. There now exists an ever-growing and increasingly unbridgeable gap in a haptic divide between older generations and the young, and this is experienced notably in collegiate drawing courses. Assuming an empirically gained body of knowledge about the physical world is present in incoming drawing students (for instance, that as children they played outdoors, climbed trees, built forts, dug in the dirt, etc.—and that these haptic activities were preconditioned to learning to draw) is causing higher education drawing instructors to reevaluate the curriculum currently in place. Indeed, such preconditions are being found to be absent in freshmen foundation students. Yet, the relationship between seeing and knowing and touching and drawing exists as a timeless condition, especially in traditional studio arts.

With an awareness of how design education has evolved over the past two-and-a-half centuries, from “an outgrowth of eighteenth and nineteenth century industrialization” with a haptic, embodied creative process to a production-driven, media-centric curriculum, it seems that design students have the potential to benefit from a haptic reflective practice (Borg, 2012, p. 2). With such a contemporary emphasis on concept
development, product outcomes and technical skills, there is little if any time devoted to reflecting on and externalizing the tacit knowledge and insights that transpire over the design process. Such a haptic, reflective practice could be a component of a freshman foundations course as a way of helping students to have an embodied experience of reflection-on-action, and would provide them with a useful tool they could return to later in their professional career.

Writing as Phenomenological Composition and Practice-Led Inquiry

“If writing ‘is a method of inquiry’ for qualitative researchers (Richardson, 2003, p. 499), then how does writing function for designers who engage in research?”

The intention for this section is to discuss the concepts of writing as inquiry and phenomenology—how they interrelate and form a qualitative framework for the investigation process of design education research, and how they relate to practice-led inquiry—and how both of these inform this thesis. The central method through which I have composed my research is writing as inquiry, approaching writing as an emergent locus—a space for discovery (a platform for “knowing” that is fluid and ever-evolving, rather than one that statically captures and contains). Like Richardson (2003), I write “in order to learn something that I did not know before I wrote it” (p. 501). Like doodling or sketching, writing enables the writer to become an audience to their own thoughts. Instead of waiting
to write until having a map of where my thoughts are headed, I approach writing as a
dynamic, iterative process—“the writing propels the knowing” (Cadwell & Turner-Maffei,
2002, p. x). With every article, book chapter and source I read, I begin a dialogue with the
content—a relationship that evolves as I deduce meaning from them and between them.
Incubation, too, describes a significant portion of my writing process. I internalize the
messages of read material, mulling over the meaning and interconnections, often finding
that the greater the temporal distance, the greater the depth of my conclusions.

“Writing as a method of inquiry, then, provides a research practice through which
we can investigate how we construct the world, ourselves, and others, and how standard
objectifying practices of social science unnecessarily limit us and social science. Writing
as a method does not take writing for granted, but offers multiple ways to learn to do it...”
(Richardson, 2003, p. 500). Writing offers useful and unique affordances for designers—
from ways of navigating and solidifying ideas to becoming more articulate in explaining
nebulous thoughts. In addition to Richardson, one notable creative thought leader
approaches writing (and drawing and mark-making) as exploratory and discovery-bound.
Lynda Barry, a multiple-award-winning artist, cartoonist, author, and professor—heralded
by The New York Times as “among this country’s greatest conjurers of words and images”—
employs a philosophy towards knowing that values the discoveries that emerge through
writing’s tactility (“Lynda Barry,” n.d.). In her book, Syllabus, Barry focuses on how using our
hands (the “original digital devices,” as she calls them) gives us a special sort of insight and
creative concentration. Her philosophy of embodied meaning-making is manifest in her
testament to the nexus of writing and drawing existing in a space—speaking to the value of
“[t]he practice of developing a place not a thing” (Barry, 2014, p. 194).
Writing as inquiry—also referred to as free writing and discovery writing—is also “understood as a method of writing in a free way that allows the writer to tap into their stream of unconscious ideas, into those thoughts and feelings that flow in all of us, just below the surface” (Doherty, 2009, p. 77). Richardson (2003), approaches writing in a fluid way, contrary to traditional instruction which emphasizes planned and structured use of language. With its autonomy from standardized written structure, writing as inquiry situates itself as a place of emergent and iterative discovery. “The product of writing as inquiry, in the form of reflective written accounts, serves as a record of this creative endeavor and can be put to all manner of purposes as the inquirer seeks to broaden their range of reflective practice” (Doherty, 2009, p. 77). Richardson (2003) ascertains that “writing as a method does not take writing for granted, but offers multiple ways to learn to do it...” (p. 500). And, as has been a longstanding comparison, there exist many overlaps between writing and visual arts (drawing and painting), leading some to refer to writing as “composition.”

A commonplace term in writing and visual arts, composition “signifies the similarities that abound between composing in both arts, especially if we consider not the artistic artifacts but the process by which the image emerges on the canvas or the words appear on the page” (Golden, 1986, p. 60). “What can an artist teach us about how to write an essay?” poses professor and author Catherine Golden (1986) in an article titled “Composition: Writing and the Visual Arts” (p. 59). In it, she describes how she utilized a series of illustrative studies and painting by artist Jean Auguste Dominique Ingres to spark discussion with her Introductory Composition students about the parallels between the art forms of writing and drawing/painting. In highlighting “the way in which a painter moves
from sketch to completed painting could serve as an analogue for a way of professing from draft to final paper,” Golden (1986) “sought a way help [her] students visualize the revision process” in writing (p. 59). Like an artist’s (or designer’s) sketches, a writer’s outline or early drafts with corrections function as breadcrumbs along the creative evolution process and reflect the organic and iterative nature of such expressions. “This tangible residue of creation in an evolving work of art helps the viewer reconstruct the composing process” (Golden, 1986, p. 60). The creative practitioner’s process can in itself be a form of inquiry, as evidenced by another reflective practice-related method—practice-based research (Mäkelä & Nimkulrat, 2011; Teerapong, 2014).

Practice-led research describes a paradigm of study combining theory with action, in which artist and “designer researchers can discover knowledge through their practices” (Teerapong, 2014, p. 1). Practice-led research conceptualizes the artist’s/designer’s practice as a research method, methodology, and data, and corresponds with the theory of reflective practice. As co-authors Mäkelä and Nimkulrat (2011) relay, “[o]ne of the major issues of this form of research concerns how the researchers who are also the artists/designers can reflect on and document their creative processes in relation to their research topic” (p. 1). Tacit knowledge is no doubt subterranean in practitioner’s activities, and emerges over the course of the creative process. Practice-led research serves as a methodology for designer researchers to access and grasp such implicit understanding in a manner that is most intuitive to them—through the act of designing. Indeed, the tacit knowing “of design resides in people, processes and products. Part of this knowledge is inherent in the activity of designing and can be gained by engaging in and reflecting on that very activity” (Mäkelä & Nimkulrat, 2011, p. 2–3).
“[D]ocumentation in practice-led research context can function as conscious reflection on and in action,” referring to the phases of reflection-in-action and reflection-on-action spelled out by Schön’s theory of design as reflective practice (Mäkelä & Nimkulrat, 2011, 1). In the context of the practice-led research paradigm, reflection-in-action describes the conscious reflection of designer-researchers on current experiences in the creative process; reflection-on-action entails their reflection “on the documented experiences after the entire process” (Mäkelä & Nimkulrat, 2011, 8). “[W]hether it is diary writing, photographing or sketching,” documentation can help the designer practitioner “in capturing the experiential knowledge in creative process, that what the practitioner learns from within his/her practice becomes explicit, accessible and communicable” (Mäkelä & Nimkulrat, 2011, p. 1).

Another approach that uses the individual’s subjective experience is the study of phenomenology, which has also informed the topic of my research. Defined by phenomenological and pedagogical scholar Max van Manen (2007) as “a project of sober reflection on the lived experience of human existence—sober, in the sense that reflecting on experience must be thoughtful, and as much as possible, free from theoretical, prejudicial and suppositional intoxications,” phenomenology correlates closely with contemplative and haptic practices, such as writing and drawing (p. 12). The haptic processes of writing and drawing are strongly phenomenological in nature, for they represent corporeal expressions. Author Wendell Berry (1990) comments through a phenomenological lens on the tactility of transcribing language:

“Language is the most intimately physical of all the artistic means. We have it palpably in our mouths; it is our langue, our tongue. Writing it, we
shape it with our hands. Reading aloud what we have written—as we must do, if we are writing carefully—our language passes in at the eyes, out at the mouth, in at the ears; the words are immersed and steeped in the senses of the body before they make sense in the mind. They cannot make sense in the mind until they have made sense in the body. Does shaping one's words with one's own hand impart character and quality to them, as does speaking them with one's own tongue to the satisfaction of one's own ear?... I believe that it does” (p. 192).

Like Berry, I have found that the tangibility of handwriting offers the writer an unmatchable experience in meaning making. It requires a level of patience, focus and consciousness to inscribe your initial thoughts that somehow anchors them in your mind. And with its qualitative cynosure on “thoughtfulness and attentiveness,” phenomenology also holds “connections that align with many significant aims” of reflective practice (Messer, 2015, p. 25).

**Haptic Writing**

In gathering research on handwriting, the goal has been to understand what uses, applications and outcomes of this analog communication process have already been studied, and how this method benefits its practitioner. There is a growing national-cultural conversation on mindfulness in education, contemplative practices, and being present, which the essence of this thesis aligns with. With the digital world becoming virtually omnipresent in a short period of time, we are experiencing a collective pendulum shift—people are now starting to look at what is missing from the human experience,
valuing what we have lost, which is evidenced in the embodied being back in conversation. Journalists, psychologists, and educators, especially over the past five to seven years, have broadcast the current state of writing by hand in the classroom, the decline (or complete extinction, in many cases) of cursive instruction in American schools, and case studies citing the exceptional power this writing method has (Doubek, 2016; Doverspike, 2015; Dubner, 2016; Hanover Research, 2012; Hotz, 2016; James, 2010; Klemm, 2013; May, 2014; Ribeiro, 2013; Trubek, 2009).

With the advent of digital technology—especially computers, keyboards and touchpads—followed neglect of traditional note-taking methods en masse. Although these new media appear to offer superior note-taking capabilities—for example, enabling you to type faster than you can write, so that you to capture a professor’s lecture verbatim—the quantity and quality of information that is absorbed and retained shrinks in comparison to writing longhand due to the lack of cognitive processing (James, 2010; May, 2014). The act of putting hand to pencil, pencil to paper, and the haptic movements involved represents the complex integration of visual, motor and cognitive processes. Handwriting focuses the eye on the tip of the pencil, putting near total concentration on the tracing of each letter, which in turn leads to greater memory of the letterform, and, per James’ (2010) findings, increased neural activity in young children.

The 2010 release of the Common Core Standards (CCS) from the U.S. Department of Education mandates that elementary schools are no longer explicitly required to teach cursive handwriting (Hanover Research, 2012). So far adopted by forty-six states, the current CCS have sparked nationwide deliberation, dividing the country—from legislators to writing historians to classroom educators—on the implications for the future of
handwriting and whether its obsolesce would really be a detriment. The two greatest arguments of those in favor of reviving/continuing cursive instruction are heritage and current customs (i.e., losing the ability to read our nation's founding documents and making handwritten signatures) (Doverspike, 2015) and science (the fine motor skills, benefits to cognitive development and increased recallability of content) (Doubek, 2016; James, 2010; Klemm, 2013; May, 2014).

Regardless of the nostalgia and ritual we cling to in writing by hand, journalist Steven Dubner (2016) asserts the importance of acknowledging the question: “Is handwriting a technology that served its purpose until something better came along? Or is it an essential part of who we are, how we process information, how we think?” Those who support the abolition of cursive in the classroom (Trubek, 2009) cite the “handwriting effect”—the documented phenomenon of students with more legible handwriting receiving better scores on tests (especially high-stakes tests, like the ACT)—and the “democratizing effect” of keyboarding, which asserts typing should be favored because it allows students more time to devote to thoughts and ideas rather than focus on the task of physically getting out words on paper. But, as some sources elucidate (Ribeiro, 2013; Cisco, 2010), technology is advancing at such a rate that even the keyboard is progressively outmoded. Indeed, as forecasted in a 2010 Cisco report, “the keyboard is about to be overthrown by a combination of voice recognition, bio-sensing, gestural interfaces, touch-screen versatility, and other technologies that will allow us to input data and commands without keys.” Such projections appear to spell the end for handwriting. But could such a loss be justified knowing the benefits it provides the human mind?
A Drawing Inquiry

Seeking to understand the value that drawing by hand provides designers in reflection and idea generation, literature on the topic of hand drawing and drawing research was consulted. One body of the literature centers on hand drawing in the fine arts (Alcorn, 2015; Ashton, 2014; Cain, 2010; Vengua, 2014) and another speaks to its place in design (Have & van den Toorn, 2012; Laisney & Brandt-Pomares, 2015). Some of the texts also speak of hand drawing as an essential and irreplaceable skill in the digital age (Adams, 2014; Alcorn, 2015; Have & van den Toorn, 2012).

In the fine arts arena, hand drawing can be perceived as a process (Cain, 2010) — a way of experiencing and understanding the world — and is explored from both a phenomenological (Ashton, 2014) and haptic (Vengua, 2014) perspective. In a metacognitive, practice-based exploration of hand drawing through the lens of phenomenology, Ashton (2014) frames drawing “as a way of learning about the world and its objects, and the point where being and consciousness interact” (p. 50). Drawing is further described as a nexus of mind, body and object — a practice that leads to a multifaceted understanding of one’s lived experience. In a similar vein, artist Jane Vengua provides a series of how-to haptic drawing exercises in order to become fully aware of one’s senses. Vengua (2014) defines a haptic drawing as “a practice in which a tactile and open awareness of the object are integral” (p. 4). Indeed, haptic drawings are lead by and dependent upon the senses. They are meditative exercises in process, tactual awareness, and consciousness that discard the impulse to create lifelike replications of what is observed (see figure 6). Ultimately, the purpose of a haptic drawing, Vengua (2014) explains, is in “cultivating and engaging your curiosity, thoughtfulness and empathy for the world, its inhabitants and other phenomena”
Drawing’s Effect on Affect

In addition to stimulating senses and empathy, the act of drawing to express happiness was found to positively enhance mood after being induced into a negative mood state, according to the results of a recent psychological study (Smolarski et al., 2015). In another inquiry, drawing was found to be a superior short-term mood enhancer compared to written expression (Drake & Hodge, 2015). Contrary to previous findings, the results from the study by Drake & Hodge (2015) revealed that “mood improvement was not a function of preference”—even participants who specified a preference for writing over drawing showed significantly less negative affect after completing the drawing activity (p. 31). Furthermore, “when the mood induction involved a personal event... drawing decreased negative affect and increased positive affect”—a finding with implications that drawing as practice to reflect upon negative experiences can provide positive emotional resolution (Drake & Hodge, 2015, p. 31).

The therapeutic aspects of drawing have been studied largely and the benefits are numerous. Drawing has been found to contribute to calm states of consciousness and linked to alpha rhythm in the brain (Belkofer et al., 2014). Alpha rhythm describes patterns of smooth oscillations in the brain’s electrical activity, and is associated with relaxed states
of consciousness and involved in the cognitive processes of meditation, visualization, working memory, and self-regulation (Belkofer et al., 2014).

Drawing as Reflection

What is interesting to note, though, is the implicit significance of a written reflective practice in Ashton’s (2014) and Vengua’s (2014) hand drawing processes. Ashton (2014) mentions he kept a reflective journal throughout his exploratory drawing project while Vengua (2014) prompts the reader to pause after every haptic drawing exercise to take notes on what the activity means to you. It can be inferred then that solely engaging in a drawing process is not enough to make meaning—to quote professor Graham Gibbs (1988): “It is not sufficient simply to have an experience in order to learn. Without reflecting upon this experience it may be quickly forgotten, or its learning potential lost. It is from the feelings and thoughts emerging from this reflection that generalisations or concepts can be generated. And it is generalisations that allow new situations to be tackled effectively” (p. 9). Thus, in order to have a truly generative, fruitful discovery experience, it appears, a hand drawing exercise cannot stand on its own.

Drawing in Design

Whereas in the fine arts drawing has been studied as an organic process for engaging whole-bodied and full-minded in one’s surroundings, “in design drawing is first of all a tool” (Have & van den Toorn, 2012, p. 73). Drawing is a perceived as a tool for communicating (both intra- and interpersonally), developing ideas and plans, and designing experiments. Though this is only a preliminary survey of literature on hand drawing and design, it stood as a surprise that every mention of drawing in design was in the context of
architecture—as Have and van den Toorn (2012) proclaim, “no architect can survive without drawing” (p. 74). Indeed, drawing by hand should be so ingrained in a designer's process that it be akin to “a type of ‘handwriting’” (Have & van den Toorn, 2012). In the digital age, with the hyper-saturation of mediated tools available at the designer's fingertips, hand drawing is championed as a primary need (and computer drafting as a secondary skill) in design, in both educational and professional settings.

Unlike CAD and other mediated graphical tools, hand drawing affords a singular generative freedom. From his observations, visual arts professor Stephen Alcorn (2015) remarks that computer design software imposes creativity-thwarting constraints on designers, limiting and locking them into a specific frame of thought. Indeed, “computers do not engage our bodies to the extent that traditional drawing processes do. The movement of a mouse is rudimentary compared with the handling of a pencil, and lacking tactile gratification... Because the hand is focused on the mouse or tablet, while the eye is focused on the monitor, there is, inevitably a disconnect between the hand and the eye... Nothing could be further from the truth than the oft-heard cliché ‘the computer is just another pencil’” (Alcorn, 2015, p. 23). But yet, it is important to note that technology is not the threat (it has always been a constant)—it is the formulaic speed with which it grants the creator, “and that speed has led to a mediated flattening of the visual world and our tactile connections to it” (Alcorn, 2015, p. 26). In remedying the situation, Alcorn (2015) promotes the cultivation of an analog-digital “plurality of skills” in students so that the two binaries “may stand side by side in their lives, like two doors of perception that open onto a single, unified space... where the world is waiting to be transformed through the timeless,  

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3 It deserves explication that perhaps the reason drawing is widely present in literature in connection with architecture is indicative of hand skills still existing as a valuable ability in that field of design. Despite the presence of sophisticated design and modeling software such as CAD and Rhinoceros, no design tool can match hand drawing in its ability to freely explore initial ideas.
persistent coordination of the draftsman’s eye, mind, and hand” (p. 27).

**Discussion**

From this review of literature, a number of insights about haptic processes of drawing and writing percolated, influencing my ultimate conclusions and recommendations for a haptic reflective process in graphic design education. Initially, the proposal was for a drawing-specific reflective practice, influenced by observed reactions and literary affirmation (Borg, 2012) of graphic design students’ general resistance to written exercises. However, as the research progressed, my conviction on the ability of drawing to stand alone as a communicable expression of reflection in the classroom setting waned. Writing and drawing are symbiotic; both are languages, and exercising them together can be likened to having a broader vocabulary. Inquiring reflectively on an experience, and then encoding it haptically, using both written and drawn modes of expression, forces ideas to become stickier—to grow and stick to one another—and to stick long-term to the practitioner.

In a curious way, I often experienced the very resistance to engage in such drawing and writing haptic practices, and even visual journaling over the course of this research as that I have observed in my undergraduate design studies. The justification I can provide for this can be eloquently summed up in a blog post by graphic designer turned author Austin Kleon (2016)—self-described as “a writer who draws” who makes “art with words” and “books with pictures”—titled “Just don’t lose the magic”:

“You see this pattern over and over with many creative people: they have this little bit of magic, a spark of something that comes naturally to them, and it’s often messy
and weird and a little bit off, and that's why they catch our attention in the first place. The odd magic is what we love about them.

Then, something happens. They decide it's time, now, to be serious.

The wild painter whose Instagram you love goes to grad school and all of the sudden her posts get boring. A brilliant illustrator decides to write a book, a real book, one without any pictures in it, and it comes out and bores you to tears. Etc...

It happened to me: before I went to college, I loved poetry, drawing, and art with a sense of humor. Then, after I got to college, I decided, It's time, now, to be serious. I started to believe in the following misguided equations:

1. fiction > poetry
2. words > pictures
3. tragedy > comedy.”

Like Kleon, I fell cyclically into a mental headspace with occupancy only for rigorous, formulaic typed compositions, feeding myself the script that to draw or doodle would deem it inferior or less intellectual. Through the intervention of a course entitled The Art of Words last semester, however, I was able to break from the pattern of conventional academic writing and rediscover the power of writing's tactility, embodied meaning making and drawn expressions. Over the course of the semester, while researching this thesis topic, I engaged in a dialogue with philosophers Deleuze
and Guattari (1987). Deleuze and Guattari’s concepts of desire, the becoming-self, and haecceity were provocations that challenged me to reflect on my writing process and, in time, persuaded me to conceptualize my writing and design research as a relational space—a locus where the impossibilities of ever-expressing my ideas completely or perfectly revealed surprising new forms of creative possibility: a cantaloupe inscribed, a mirrored text, and a tiny package of drawings, among others. I strove to express the Deleuze-and-Guattarian ideas of embracing the transiency of living (the becoming-self), desire as a “process of increasing expansion, connection and creation” (Colebrook, 2002, p. xxii) and haecceity (the inherent thisness of an individual/thing) conceptually, and through reflection. Exercising my characteristic pre-crastination and introspective penchants, I strategically crafted the idea behind each of the creative pieces in the Art of Words course. The original work quasi classifies as conceptual, for the planning and procedures were decided upon before production. But unlike true conceptual art, I do not consider the actual making of them completely perfunctory—the execution of the work was just as much a thoughtful, embodied process as was the front-end.

These articulative projects from the Art of Words are representative of the virtually limitless possibilities of haptic writing. With the poem-inscribed cantaloupe (see figure 7), for example, I was writing to explore a process. The moon poem engraving symbolizes my Deleuze and Guattari-inspired articulation of desire, the moon’s cratered surface signifying a sense of lack. The conscious selection of a three-dimensional form gave the poem’s words a whole other realm of meaning. My intention in carving the poem into the surface was to make its interpretation interactive—both in rotating the sphere to read the narrative and in running your fingers over the words, filling the trenches of letterforms, making the void
whole with your presence. The moon engraving poem also ties into the designer’s process of thinking and of generating ideas. The poem itself and its manifestation on the cratered fruit validates those twists and turns, the risks designers take off the beaten path that help create better ideas. For, sometimes these side trips and excursions that we make are the most productive—but the value of the journey is never realised until it has been actively reflected upon.

![Figure 7. Moon engraving poem (2016).](image)

Even in a college of art and design, it is necessary to realize that hand drawing is a variable skill. Thus, mastery is a concept that merits acknowledgement and clarification in the context of this inquiry. Drawing is a different phenomenon for every person, based on past experience, skill and knowledge of the practice. As such, there are infinite entry points and profiles of people who draw. Framing drawing as learning activity, a reflective process and creative process in this context has the potential to alleviate any pressure for those who don’t feel as comfortable in their drawing ability. A fellow Master of Design student offered that if she would have been prepared to approach drawing in the same
fashion in her industrial design undergraduate design courses, she would have been more “loose” with her drawings, which would have fostered a “more personal” experience (D. Casey, personal communication, March 22, 2017). The process of reflection, like drawing, is one of unfolding and ever-evolving. It is important to recognize that one's interpretation of reflection develops gradually, over temporal distance, and therefore one is entitled to not have all of the reflective insights right away. Indeed, there exist many streams of consciousness and stages of reflection, and the destination pursued is something each practitioner is working towards, and that, to some classification, we are never really “there.”

Rhizomatically, the question of drawing's place in reflection surfaced as a point that deserves explicit acknowledgement, prompted by a professor's query: in what stage of reflection does drawing exist? Is it exclusively during reflection-in-action or background reflection, or can drawing occur during all reflective stages simultaneously, through mastery? From this inquiry, it appears that drawing's place in reflection varies according to the definition of drawing engaged in. For instance, engaging in a haptic drawing (Vengua, 2014), with its dependence on sensory stimuli and keen awareness of one's environment, makes the activity prime for reflection-in-action stage. The act of walking is a form of background reflection, and stands as an argument for the mastery of the craft of drawing, for it is only through such comprehensive ability that the activity becomes a manifold experience. Drawing, perhaps therefore represents not solely an exercise in craft, but a practice that transcends itself to becoming something that bears the capability to contain many experiences.

It is important to acknowledge that this thesis represents one proposal for graphic
design education, not an absolute or finite premise. With “one of the struggles in graphic design curriculum in this age of ever-expanding technology and global-business” being “finding time for and balancing the need for design theory and thinking as well as technical training,” it is understandable that educators and students could cast a discerning appraisal of a process that would require a dividend of their viable time (Brewer, 2011, p. 86). How could graphic designers and becoming-graphic designers be convinced of the value of adopting a haptic reflective practice? Aside from the findings from the literature surveyed in this research, I collected anecdotal observations from design instructors and peers on their perceived value a haptic drawing and writing practice would add to design education. According to a fellow Master of Design student, the act of writing something out, rather than typing, makes his stream of thought “flow better.” Drawing allows this student to explore and discover more ideas, and, he finds doodling “leads to more variation and sometimes, happy accidents” (V. Bendapudi, personal communication, March 20, 2017).

It is likewise important to explicate that this thesis’s purpose, given its dualistic haptic writing and drawing dimension, is not an elevation of writing over the visual image, but rather an aim for common understanding between educator and student of a reflection on lived experience. A counter argument that stands to be addressed can be summed up in the concept of linguistic imperialism (Thompson, 2005). “Writers holding this position argue that art practice provides a meaningful, mature mode of expression that can be recognised by practitioners, and a text is not necessary to explain the work” (Borg, 2012, p. 5). Writing, like drawing, is a practice “which is embedded in particular contexts”—linguistic imperialists uphold that just as academic writing has a structure and style that must be practised in order to learn, paintings and drawings are studied in a comparable way (Borg,
2012, p. 5). Still, in the setting of this thesis, the coexistence of haptic writing and drawing function as an admixture of embodied meaning-making, seeking to maximize the transfer of lasting knowledge from the reflective practice.

Conclusions/Implications

The term conclusion here is anachronous. I suspect I will not fully comprehend the effect this self study has had on my practice as a graphic designer and researcher for many months—until I have reached a temporal distance from it and reflected back on it as a whole. The nodes and knowings arrived at from the research at this point seem to stand at the very periphery of a greater discovery, while simultaneously representing a step in a lifelong pursuit of haptic-driven understanding. There are certain actionable next steps that will be carried out in the immediate future, the first being a submission of the literature review portion of this thesis to a design or art and design education journal, such as iJADE (the International Journal of Art and Design Education).

Informed by dancer Vida Midgelow’s (2011) avant garde writing—letters to her practice (improvisational dance), I was inspired to haptically reflect on what this project has meant—to crystallize my insights and draw conclusions from it in the form of an illustrated postcard (see figures 8 and 9). In Dear Practice...: The experience of improvising, Midgelow (2011) composes a written correspondence between herself and her dance practice, and the narrative reads as a rich dialogue between two longstanding colleagues or close friends. How might I address my practice in such a fashion? Rather than a letter, a postcard to my practice seemed more apropos—a fusion of haptic drawing (the illustration on the
postcard’s front), handwriting, and my penchant for epistolary expression; a way to show a lived experience of haptic, reflective practice in design and to become an audience to my own ideas. Such a haptic reflective activity makes thinking of your practice as something that can respond to your interventions. Engaging in a written correspondence with your practice places it on equal footing, personifying it, like a partner in a dialogue rather than a thing that you do and create. In a word, it gives it agency. Through this activity I was reintroduced to one of hand drawing and handwriting’s valuable characteristics: their downtempo pace. With the stride of our thoughts being obviously quicker than the written stride of our hand, it forces a synthesis of thought that helps formulate them into digestible pieces. Such a haptic reflective activity bears potential for use in graphic design education.

As one of the driving objectives of this inquiry was to shape a foundational rationale for a future case study of haptic reflective practices in design.
curriculum, a potential method for this was conceived when reflecting back on the insights from this project. I speculate that the implications of haptic drawing and writing practices for design education could be studied in the following ways:

1. By conducting a series of in-depth interviews with graphic design students and their instructor over the course of a semester, observing students’ choice of articulations of a haptic drawing and writing reflective practice after each project, and synthesizing their feedback on the impact of each on their sense of understanding of design knowledge and self awareness.

2. By developing and giving out an assignment involving graphic design students conducting a self-study of their own haptic reflective practices over the course of a semester.

3. By administering a quantitative survey measuring students’ perceptions of a haptic writing/writing and drawing reflective practice and to investigate whether it was a meaningful activity, examining students in two different design courses—one course participates in solely a haptic written reflection activity, and another course engages in both a haptic drawn and written reflection. At the end of the semester, students in each class would rate their feelings toward their reflective practice using a five point Likert scale. The results from each class would be cross-examined and compared to inform future instruction/studies of haptic reflection, and to collate the responses to written versus written and drawn haptic reflection.

- A complementary approach to analyzing the effects of a haptic reflective practice would be to rate the effectiveness of the
reflective practice for meeting specific project and/or professional goals, or to measure quantifiable outcomes of tasks such as production of idea-generative sketches and the development of different approaches to problem solving.

- Another possible measurable outcome from this examination is the ability to discern visual patterns and syntax that emerge from students’ haptic drawn and written reflective expressions.

The tripartite nature of this research also sparks potential for new dialogues, particularly haptic drawing and its correlates to empathy, seeking answers to questions such as: What does it mean for a drawing to have empathy? Can we actually be empathetic if we really do project ourselves onto others/objects? Is empathy about seeing without preconception? Vengua (2014) positions her drawings as a form of empathetic knowing, but leaves the reader to discern what it means to create “empathy for the world” through a haptic drawing (p. 7). Floral, botanical, and somewhat swarm-like in appearance, Vengua’s (2014) haptic drawings share a consistent visual syntax. If a drawing is a prompt for the reflection of the self, could haptic drawings then represent a manifestation of thought? A representation of the unknowable condition of what it means to be thinking? While not in reference to haptic drawings per se, Patricia Cain (2010), author of Drawing: The Enactive Practitioner explores the nexus between enactive thinking and drawing practice, with drawings viewed as both a process and an artifact. Indeed, Cain (2010) begins the introduction of the book with the query: “How do we think as we draw?” and goes on to confirm the idea that “thinking might not just involve knowing with the head, but thinking
through the body” (pp. 17–27). Graphic designers’ sense of understanding and meaning-making has the potential to benefit from drawing’s capacity for promoting learning for, as Cain’s (2010) enquiry illustrates, drawing affords us to “become familiar with self-observation in a learning experience... be creative to develop methods...” and “become familiar with shifts in our modes of attention...” (p.272).

It is interesting that Vengua (2014) considers haptic drawings a route to empathy when observational drawings in their very nature aspire to a profound condition of empathy. To draw observationally is to actually become that which is being drawn in a way, for one projects oneself upon the subject in order to understand it. Likewise, a conceptual drawing—which is not wholly based from what you see, but is completed with information that you know about the “concept”—in an unconventional way, can also be a form of empathetic knowledge. Conceptual understanding represents a qualitative knowing about an object that is about the object itself and not about you. It should be addressed how quickly haptic drawings can actually become self-referential, for to engage in such a visual illustration is to express your relationship to what is being drawn. Contrary to Vengua’s (2014) position, then, haptic drawings can be thought of not as empathetic at all, but as embodiments of a singular person’s sensational experience. Though Vengua’s (2014) use of the term, empathy, is fraught with contention, it is also forward thinking. To make a claim as Vengua does of empathy’s connection with haptic drawing is bold, and represents an important, necessary first step in research.

Ultimately, this endeavor of a haptic reflective practice speaks to what one does as a person (lived experience), how these experiences intersect with what one does in
the professional setting—and how the spectrum of these activities informs professional output. In this thesis the intention is to honor the reflective practices of individuals while seeking to also acknowledge the importance of synthesizing these into a whole. Because the collective dialogue of research and scholarship is emboldened when all voices are considered, there is value in acknowledging the unique qualities of the conversation.
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