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Doing Design Thinking: An Ethnography of the Digital Graphic Design Studio

by

AnneMarie Rose Ennis Dorland

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

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Abstract

How do designers do design thinking? The design studio is often held as an epicentre of a new way of thinking about complex problems: design thinking. As such, the studio itself it is frequently appropriated as a model for generating creativity and innovation quickly and reliably. In this research, I describe how the discourse of design thinking is re-shaping the practice of design work from which it takes its name. By examining the effects of the design thinking discourse on the work of a design team, I provide a rich view into the day-to-day workings of communication designers engaged in negotiating the discourse of design thinking in their practice.

Drawing on ethnographic observations of client pitches, team brainstorms and daily work in the studio itself, I argue the discourse around design thinking is made visible in the ways that designers engage with clients, with their teams, and in their individual practice. At the studio level, I investigate the ways in which auditing practices and client facing work are shaped by this evolving discourse, and how the discourse of design thinking is mobilized as both a translation device and catalyst for change. At the team level, I demonstrate the challenges introduced by this discourse to teams attempting to reconcile the performative aspects of their work with the mundane but essential labour of cultural production, and how they develop new understandings of what it means to be a designer who makes thoughts, not things. And at the practice level, I examine the surprising role of ambiguity within the daily work of individual members of this community of practice.

By examining the development of graphic communications, and the effect of a discourse on a unique social practice of cultural production, I paint a picture of the interplay of routine and adaptation in the work of producing communication design. I conclude by proposing a model of a holistic design mindset: one that incorporates designed thinking, design doing, and design culture with the attitudes, aptitudes and approaches of this occupational culture.

Preface

This thesis is original, unpublished, independent work by the author, AnneMarie Rose Ennis Dorland. The observational fieldwork, interviews and document analysis described in Chapters 3 – 7 were covered by Ethics Certificate number REB16-1408, issued by the University of Calgary Conjoint Faculties Research Ethics Board (CFEB) for the project "Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting" on October 7, 2016.

Findings described in Chapter 6 of this thesis have been published as: Dorland, A. (2018) Didn't we solve this one? The function of practice routines in design thinking. *Communication Design, 5*(1), 115-130. Fieldwork data described in Chapters 4 – 7 of this thesis have also been described in the following publications: Dorland, A. (2016). Tell me why you did that: Learning ethnography from the design studio. *Ethnographic Praxis in Industry Conference Proceedings*, Wiley Online Library; and, Dorland, A. (2017) The view from the studio. Design ethnography and organizational cultures. *Ethnographic Praxis in Industry Conference Proceedings*, Wiley Online Library.

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In addition, I would like to thank the many designers, copy writers, creative directors and strategy leads who so generously gave of their time, insight and experience to collaborate with me in this research work. Though the studio that welcomed me as a researcher and the teams that invited me into their working worlds have requested to remain anonymous, I do hope their uniquely creative and innovative spirit shines through in my description of their practice. This work would not have been posisble without their thoughts and ideas and I offer my sincerest thanks to each and every member of the StudioX community that helped bring this study to life.

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Designers are, by their very nature, emissaries of all that faces outward:
makers, doers, propagators seeing the future.

Jessica Helfand, *Design: The Invention of Desire* (2016, p. 19).

Chapter 1: Introduction

The term "design thinking" appears to be having a moment. With courses, books, national initiatives and global programs purporting to offer up "design thinking" strategies as a silver bullet – a maneuver that allows all people to solve all problems at all times. Invoking "design thinking" in discursive practice has become synonymous with conjuring up the "designerly" way of thinking and knowing (Cross, 1982) that stands in for all that is good about creative and innovative work. Indeed, design thinking (in its many forms) is often describe as the "unicorn skill" (Maeda, 2018) of a generation invested in re-designing how social, health care, policy, educational and industry-focused decisions are made. Design thinking is now a common reference in initiatives focused on changing the world (Berman, 2008; Shea, Lupton, & Drenttel, 2012), fostering innovation in Canada's future (Canada Innovation Foundation, 2017; DIAC, 2011), connecting creativity with research practices in post-secondary and K-12 education systems (IDEO, 2017a) and shifting the boundaries of qualitative research (Lindley, Sharma, & Potts, 2014). This is a lot of pressure for any term, let alone one as multifaceted as "design thinking." Today, this shorthand for solving problems using a design mindset proposed by engineering designers nearly 40 years ago has become a genre of discourse, an emerging grammar that is shaping the social practice of subjects far outside of the field of design and that is now used in innovation and research efforts unimaginable to the design theorists who first proposed it (Brenner & Uebernickel, 2016).

In this dissertation, I return design thinking to its original home of the design studio, and I describe how the social practices of design studios and the designers that work within are increasingly shaped by the use of design thinking as a discursive structure. By defining design

thinking as a discourse that is made material and evident in the organizational setting, I am able to examine the effect it has on the linkages between the everyday practice of what designers call "design doing," and organizational structures that aspire to shape the work of designing (Teghtsoonian, 2015).

Though a fertile field of scholarship has focused on the potential and power of design thinking as a problem-solving method (Cross, 2011; Faste, 1994; Lawson & Dorst, 2009; Kimbell, 2016), researchers interested in design thinking have paid less attention to the "occupational culture" (Orr, 1996) of digital graphic designers tasked with embodying this particular set of "designerly things to know, ways of knowing them, and ways of finding out about them" (Cross, 1982, p. 7). This organizational ethnography (building on the model proposed by Schwartzman in 1993) examines the effect of the discourse of design thinking on the linkages between what designers call "design doing" (or the everyday practices of designing) and the studio structure that aims to shape how design doing is done. In this dissertation, I examine a large digital graphic design studio to investigate **how the discourse of design thinking re-shapes the practice of design work,** and to ask: **how do designers do design thinking?**

Today's digital graphic design studio organizations function as laboratories for ideas rather than as ateliers for the production of culture, serving as experimental storefronts for the application of design thinking discourse in practice. With this in mind, looking into the studio provides a view into how designers are adapting to the structuring effect of the discourse around design thinking in their client facing engagements, in their team's work, and in the accomplishment of their individual "design doing" practice. Many communication focused examinations of design practice shine a light on the applied activities and output of designers as

cultural producers (Caldwell, 2008; Jackson & Aakhus, 2016), while working to make visible the discursive structures, organizational forms of learning and communicative practices in organizations that define the cultural production labour of this community of professionals (Bräuchler & Postill, 2010; Julier, 2017; Gherardi, 2006; Orlikowsky & Yates, 1994). In addition, with an increased interest in the role of design as a research tool (Crouch & Pearce, 2012; Charlotte Smith, Vangkilde, Kjarsgaard, Otto, Halse, & Binder, 2016; Van Vaggel, 2005) a font of innovation (Carlgren, Elmquist, & Rauth, 2016) and a lever for change (Brown, 2008; 2009), our cultural understandings of who is allowed to be a designer, what is considered to be a design solution, and how we frame design practice are being actively contested and reimagined (Manzini, 2015).

With that in mind, despite the growing attention paid to the importance of design today and the growing reverence for the mythologized role of the designer in our contemporary culture, the inside of the design studio remains a relatively unexamined vantage point from which to view these changes in cultural understandings of design practice (Murphy, 2015). A focus on the production of the designed material and cultural artifact acts to render invisible the work of designing: the steps small and large that members of a design team take as a community to create innovative ideas and solutions for problems, to work within highly ambiguous problem definitions to create material solutions, and to design not just a new thought, but a new way of thinking. A better understanding of how the discourse around design thinking shapes and re-shapes the organizational culture of studios, the working structures of teams, and the individual practices of designers, aids in illuminating how designers accomplish that which is so desirable to the world outside the studio: using design thinking as an innovation generation process.

In examining the social practice of digital graphic design, I do not aim to investigate the communicative effects of the digital artifacts produced by designers, but rather the social practice of producing digital communication. By studying how the discourse around design thinking effects the linkages between the everyday social practice of designing and the organizational structures that shape the work of an occupational community of designers, this research builds on studies of communicative processes in organizations (Orlikowski & Yates, 1994) and of designers as producers of communicative artifacts (Knoblauch, Jacobs, & Tuma, 2014). Above all, this dissertation work investigates those who produce communication and the production culture of the epistemic organization which makes it possible (Caldwell, 2008) by interrogating how these cultural producers adapt their practice to the ways clients, studios, and team members communicate about design thinking.

This study of design practice will be of interest to those within the field of communication and organizational studies concerned with the development of communication design, and those interested in the ways that communicative practices in creative organizations structure the work of cultural production. My hope is that the findings I present here and my analysis of design doing in practice, will contribute a new understanding of the ways that graphic designers engage with communication design practice, the ways that they share, learn and enact new forms of design practice, and the manner in which forms of practice are negotiated and changed within this specific setting of cultural production (Banks, Caldwell, & Mayer, 2009; Caldwell 2008).

This ethnographic study is, above all, a study of practice – one which attempts to understand the work of an occupational community and which concerns itself with specific explanations for forms of activity, allowing for an analysis of how a situation comes to be, or

"the articulation of particular theoretical relationships that explain the dynamics of everyday activity, how these are generated, and how they operate within different contexts and over time" (Feldman & Orlikowski, 2011, p. 1241). In focusing on design practice at "an empirical level", and from the perspective of social practice theory, I draw from Feldman and Orlikowski's contention that organizational phenomena are constantly changing, are socially constructed (in part by discursive practices) and, are negotiated in interaction. By examining how designers as an occupational community and a community of practice *do* design thinking using a practice theory lens, I thus generate an understanding of "the mutually constitutive ways in which agency is shaped by but also produces, reinforces, and changes its structural conditions" (2011, p. 1250).

This, rightly, suggests that my analysis will not only examine the activities that come together to form the practice of designing (Shove & Pantzar, 2007), but also the systems in which designers accomplish this practice and the construction of epistemic subjects within this system. Using this list of characteristics to frame the design studio as an epistemic culture – in essence, a 'lab' for creativity – reflects my aim to understand the social practice of knowledge production, rather than the organizational structure of the knowledge production machine embodied by the studio space (Knorr-Cetina, 1999). Though my focus here is in describing how everyday practices within the studio and the strategies of the organization are shaped by the discourse around design thinking, this dissertation does not present a discourse analysis. Instead, my analysis of data from field-work illustrates the ways that social practices are made evident within this newly epistemic culture of the design studio, and how they are linked to the larger way of thinking and talking about what is design (Oswick & David, 2004).

At the micro level, this ethnographic study of a digital design studio focuses on the paradox of design doing and design thinking and how designers balance their creative work

between the two. At a more macro level, this research investigates the shaping effect of a discourse on an organization that is actively converting from producing culture to producing knowledge. The shift in communication design work from the development of artifacts to the development of strategy, innovation, and new ideas is indicative of the larger turn in understandings of "creative" work as a function of our economy. As a case study of this new perspective, the digital design studio provides a rich picture of how this shift is accomplished at a cultural, community and practice level. By investigating how the discourse around design thinking is shaping the practice of design work (or design doing), this research contributes to larger questions about how the introduction of a new discourse can institute changes to social practice.

I explored these topics through ethnographic field-work in a large Canadian digital design studio over the course of 10 months in 2016 and 2017. This research focuses on one specific project undertaken by the digital graphic design team at a large Canadian design studio called StudioX. This project represented both a new way of working and a new product of work, in the studio – while working on docket #3082 designers were tasked with developing "a new way to think about "partnership" for a client from the film industry who was engaging in a co-branded initiative with a car manufacturer.[1] Due to issues of client confidentiality, I am unable to describe the project work done for docket #3082 in specific detail. What I can describe though is what I believe to be the most revealing and interesting part: the ways that designers adapted their practice to a new way of talking about their work, a new product of work, and a new definition of what it means to design.

[1] Design projects at StudioX, and in many other digital graphic design studios are organized by docket number. For reasons of confidentiality, and at the specific suggestion of the organization's leadership team, I'll refer to the long-term project that I observed at StudioX as docket #3082 throughout this analysis.

The development of the specific project that I observed took months to complete and culminated in the design of two deliverables – one a digital communication product, and one a series of conceptual strategies or insights. In the first deliverable, the design team produced an augmented and virtual reality production that allowed users to put on a headset and enter an interactive fictional world that both referenced and replaced their physical surroundings. In this digital world, users could engage with the automotive product while "driving" through a fictional world established in the films they knew well. The design team I observed developed the story, designed the digital interface, orchestrated the audio, illustrated the scenery, filmed the visuals and produced the final augmented virtual reality experience. This type of cultural production work was new to the designers who participated in this study, in that they had never developed designs (or designed experiences) for this type of digital platform before. The second deliverable was a strategy for "rethinking partnership" that was delivered to clients in the form of a series of "insights" created through the design process, by designers but delivered as a conceptual, knowledge-based product. In this second case the final deliverable for docket #3082 was provided to the client's internal teams as a series of coaching exercises, delivered by designers (in the role of "insight ambassadors") based on what they had learned about "new kinds of partnership" through their design process. This type of work was new to designers as well: it required inhabiting new roles as knowledge (not cultural) producers who were able to use their creative and "design thinking" skills to make something that challenged their understanding of being a designer, to mobilize the ambiguous nature of their work as a generative strategy, and to rely heavily on the discourse around design thinking to translate this ambiguous work for the client.

In this dissertation, I attempt to paint a picture of the effect of the discourse around design thinking on the linkages between the everyday practice of designing and the processes or structures of the studio organization by using the design project described above as a case study for a new kind of design practice. In the following chapter (Chapter 2), I map the shape of the discourse around design thinking and its evolution both within and outside of the field of design. I then review the literature which defines design as a social practice, and I outline the ways in which designers as cultural producers are framed in the conversation about knowledge production within the fields of design and organizational studies. Finally, I draw on work that suggests that the design studio is actively converting from a cultural production organization to an epistemic culture and knowledge-intensive organization to further define the specific change that StudioX is accomplishing by adopting the discourse of design thinking.

In Chapter 3, I explain my ethnographic approach to this research work, and I describe the layered approach that I took in my fieldwork, data collection and analysis. I illustrate the field site where I conducted this research, and I describe how fieldwork was conducted in this particular case, using theories of social practice informed by the work of Shove, Watson, Hand and Ingram (2007) among others. In Chapters 4 – 7, I examine the practice of design doing and the shaping force of design thinking discourse from three different points of view: the design studio, the design team, and the practice of individual designers.

Chapter 4 investigates the organizational culture (Schein, 1995) of StudioX, proposes ways in which the discourse of design thinking shapes auditing practices and client facing work, and demonstrates how design thinking is mobilized by the organization as both a translation tool and catalyst for change. By presenting two specific cultural performances within the initial stages of a long-term design project (the pitch meeting, and the briefing meeting) as evidence of the

contradicting ways in the studio and the designers at work within mobilize this discourse, I demonstrate how design work is changing in reaction to the conversion of the studio space from production culture to epistemic culture. Collaborative data generation and analysis conducted with designers reveals the ways in which designers negotiate both the paradox presented by design thinking and design doing through ways of "making do", and through the institution of durable and sustainable practice change.

Chapter 5 shifts from an examination of the studio organization to the perspective of the design team (or the designing community of practice) to examine how unique formative practices that they define as key components of the assemblage of "designing" are enabling their adaptation to new understandings of what it means to be a designer in this increasingly epistemic organizational culture. By presenting three moments when the team's practice underwent notable change due to the structuring effects of the discourse of design thinking (specifically the introduction of new ways of presenting an idea, new ways of sharing an idea, and new orders and sequences of working practice), I identify some of the issues facing members of this community of practice and I describe the impact of an understanding of the role and function of the designer on the social practice of designing at a team level.

Chapter 6 focuses on the practice of individual designers within this increasingly epistemic organizational culture. Here, I examine the surprising role of ambiguity within the daily work of individual members of this community of practice. I propose that designers are embracing ambiguity in their design practice, the core product of their knowledge, and the results of their work and its meaning. I further argue that designers are mobilizing ambiguity as a tool for reorienting the conventional execution of the two initial steps of the design thinking model: doing design research and developing empathy. Finally, I identify the ways in which designers

are responding to the design discourse in practice by reframing ambiguity as a generative force in their creative work.

In conclusion, I show how the discourse of design thinking is shaping evolutionary change within this newly knowledge-focused professional field by spreading a model that prioritizes solving problems over making products. The discourse of design thinking has indeed changed design practice – designers have adapted to the integration of the design thinking discourse as both translation device and conversion tool by adapting their practice in ways that are much closer to epistemic cultures of work than to production ones. I highlight the implications this has for the use of design thinking models aimed at encouraging creativity and innovation at global and local levels. Finally, I propose a model of a design mindset as a substitution to the five-step model of design thinking. I argue that this holistic design mindset model–which is formed at the intersection of designed thinking, design doing, and design culture and which is made manifest in the attitudes, aptitudes and approaches of the designing community of practice, may offer a new way to apply this creative and innovative epistemic practice outside of the studio space.

This dissertation is about the organizational culture of the design studio; about the way that the knowledge machine encompassed by the studio's walls is shaped by the discourse around design thinking and how it, in turn, shapes the practice of designing accomplished by digital graphic designers. It attempts to describe how *designing* happens inside a studio space in response to design theorist Lucy Suchman's call for

> …a critical anthropology of design [that] requires, among other things, ethnographic projects that articulate the cultural imaginaries and micro–politics that delineate design's promises and practices (2011, p. 11).

By focusing on how a specific occupational community of designers thinks in action (Montero, 2016), this research examines how the practice of designing communication happens, and how the overlaps between occupational knowledge, professional identity, organizational culture and creative practice shape the ways that digital graphic designers think and work.

Chapter 2. Background and Related Work

In recent years, the attention paid to how designers work and how they solve increasingly ambiguous problems in their studio practice has grown in parallel with an interdisciplinary appetite for what has come to be known as *design thinking*. There is broad interest in how design-based methods of problem-solving can contribute to innovation growth, an interest which has led to the use of designerly "things to know, ways of knowing them, and ways of finding out about them" (Cross, 1982, p.7) to support the development of what Ghosh calls a "synthetic creativity" (2003) and what Yilmaz, Seifert, and Gonzalez define as heuristics for creativity (2010). In this chapter, I provide an overview of current debates in the literature of communication, organizational and practice studies focused on design practice, the professional community of designers and the contemporary design studio's emergence as a knowledge-intensive organization. I then describe research that has contributed to a better understanding of the evolution and expansion of a key discourse in the world of design: design thinking. Finally, I contextualize the scholarship from the field of organizational studies that frames this discourse as a "boundary object" (Star & Geiesemer, 1989), and a tool for the development of a revised "figured world" (Urrieta, 2007; Holland, 1998).

2.1 Designing

Graphic designers (or the professional knowledge workers engaged in the creation of digital and digitized solutions for client problems) are, in many ways, solving communication problems without making communication products. As Armstrong (2009) has argued, graphic design used to be the making of things: of books and magazines, of layouts and typography, but above all, of things. In her research on the shape and function of graphic design as a practice and

as a profession, she argues that studio output is shifting. Projects that we now group within "design" work can include visioning, strategic planning and innovation training for clients, design strategies for built environments, the redesign of services in areas as diverse as health-care and tourism, and the development of experience-based projects that expand the designer's output forms from the traditional digital or printed designed artifact of the past. Indeed, it used to be that designers developed material communicative objects (to borrow a term from Xenakis and Argyris's 2013 examination of the performative role of designed objects). Now to design is, in part, to consult, to facilitate and to provide strategizing services created to guide a client to a new way of thinking. As Kimbell identifies, this repositions design as a mode of inquiry, both a way of knowing and a form of knowledge (2011). It is at this intersection between old and new, thing and thinking that the output of graphic designers exists today.

Contemporary understandings of what the practice of design includes in this context have expanded to encompass conceptions of design as a form of problem-solving – a generator of insight, innovation and ideas (Dorst, 2006). Industry, policy, healthcare, education and manufacturing organizations now turn to designers to solve the wicked problems at hand, often without a formalized expectation of the material form that solution may have (Amatullo, 2016). Some have suggested that this is indicative of an industry-wide shift away from design as the application of aesthetics (Forsey, 2012) to design as the process or practice of problem formulation, identification and solving (Cross, 1997). The role of the designer as a problem solver rather than as a product maker is thus increasingly validated in public sector (Schneider & Stickdorn, 2011), private sector (Julier, 2017), and education focused (Amatullo, 2016; Kelley, 2016) engagements with the design field. In fact, this shift in the social function of the practice

assemblage of designing has created a new expectation of the contribution that designers can make to a variety of social problems.

Redefining the designer as a problem solver rather than as a product maker does not, of course, mean that digital designers no longer produce artifacts of material culture. As Tracey and Hutchinson (2016) argue in their examination of the role of uncertainty and reflection in design, the professional identity of the designer is entirely connected to creation in digital form. But, as Godoe (2012) proposes, the innovation focused work done by digital designers is increasingly distanced from sectors of artistic or cultural production marked by the development of material culture and is instead finding root in the knowledge economy: in the making of thoughts, not things.

2.1.1 Designing as a Social Practice

To better understand design as a practice, designers and design theorists alike rely on Simon's distinction between design and the social sciences. In his oft-quoted passage from *The Sciences of the Artificial* (1968) Simon identifies design as a practice of action and change, undertaken by a wide variety of professionals:

> Everyone designs who devises courses of action aimed at changing existing situations into preferred ones. ... Schools of engineering, as well as schools of architecture, business, education, law, and medicine, are all centrally concerned with the process of design (p. 55).

How am I framing designing? First, following the proposal made by Keith Murphy in his examination of Swedish product designers, I understand it as a series of interactions that bridge the tacit and explicit functions of design praxis, interactions which make visible the creative knowledge production that occurs not within, but between designers (2012). Viewing design in this way takes into account:

> … the messiness of interactions between designers in the studio, the suggestions and assessments they make, the sketches they draw not only for themselves but for one another, their ways of talking and habits of movement, not as context for some greater expertise but in fact what constitutes the very conditions in which a skill is performed (Murphy, 2015, p. 27).

My focus on design as interactional, practice-based and social is further informed by both Crouch and Pearce's assessment of design as both a socially-constructed phenomenon and a manner of conceptualizing and making real that practice (2012, p. 43), and by Ralph and Wand's expanded definition of "designing." Design researchers Ralph and Wand have compiled and analyzed the multiple (and often contradictory) definitions of design and designing in their work *A Proposal for a Formal Definition of the Design Concept* (2017), in which they propose an important component of the working model of designing that I adopt in the analysis of design practice that follows:

> Design is: a specification of an object, manifested by some agent, intended to accomplish goals, in a particular environment, using a set of primitive components, satisfying a set of requirements, subject to some constraints (Ralph & Wand, 2017).

This working model has many moving parts, but the layered focus on the role of context, the accomplishment of a goal, the role of constraints, and the set of requirements provides an important counterpoint to broader definitions of design as applied creativity, or generalized problem-solving.

Most importantly, the definition outlined by Ralph and Wand highlights the way in which the output of a design might not be a material object – it may also be an idea, a proposal for change, or a new way of understanding a problem. Ralph and Wand's somewhat direct definition of the term is complemented by Cash and Kreye's understanding of design as

> …a goal directed system where cognition, behaviour, and motivation are integrated, with respect to the 'bringing into being' of a design artefact (Cash & Kreye, 2017).

By viewing designing through the overlapping frameworks provided by these two areas of scholarship, I can define the designing that I observed in StudioX as a goal-directed interaction constrained by material and social parameters focused on changing an existing state to a desired one. With this balance of practice, praxis, tacit, and explicit forms of knowledge and work in mind, I am defining the activities that make up the daily work of designers to be "design interactions" or "design moves" as proposed by Perry & Krippendorff in their work on protocol design (2013).

2.1.2 Designing as Work

Studies of design work have taken as many different points of departure as there are understandings of what 'counts' as design: Keith Murphy's study of the embodiment and communication of Swedish political values through product design originates from the field of sociology (2015), Moeran's examination of an advertising and design agency in Japan (1996) approaches this topic from the world of anthropology, and Katz's examination of systems designers in Silicon Valley takes an organizational theory approach to similar topics (Katz, 2015). In all cases, though, designing is presented as a form of labour: knowledge based and culturally contextualized, but above all, work.

Perhaps, then, an examination of what designers *do* rather than what designing *is* may be warranted. Few people outside the field of design fully understand what designers do, or what kind of projects they tackle. As Ralph and Wand have argued, the term, "design" can describe anything from improving how a task is accomplished to developing specifications and operating principles to solving fuzzy problems to creating artifacts from scratch. Popular misconceptions equate designing with advertising, or interior decorating, or illustration. However, the reality of working as a designer today, and more specifically as a digital communication designer today, is

that being a designer means being a producer of culture (Mahon, 2000) – using aesthetic and technical skills and knowledge to develop the fabric of the modern digital experience.

For digital communication designers, this means designing includes imagining, developing and executing new online or digital communications initiatives for clients (creating websites, social media platforms or interactive digital tools), updating and revising how companies or organizations are represented in the digital space (with branding), and creating innovative and effective ways of communicating an idea through digital pixels for a client. Digital graphic designers create information and communication design in the form of websites, apps, e-commerce experiences, augmented reality games, virtual reality spaces, online service portals for health-care and banking and social media tools for users around the world (Frascara, 2000). It is a broad category, but one that is shaped by the original definition Simon proposed: in each case digital designers are engaging in interactions aimed at devising a course of action to shape the present to the preferable (1968; 1988).

This revised definition of digital graphic design then prompts the question of which "design interactions" (Murphy, 2015) *count* as unique to designing. As design work becomes increasingly identified with knowledge production, designing has come to include additional "cultural competencies" (Shove & Pantzar, 2016) within the work of design-practitioners. These cultural competencies include not only the evolution of tool use from the analogue to the digital or the inclusion of hardware like three dimensional printers, digital cameras, computers and rendering software but also a change in what a designerly way of doing (Cross, 1982; 1990; 2006; Dorst, 2011) includes. With the expectation that graphic designers now can – and should – create ideas that give value to clients (rather than printed artifacts or *designs*) comes an expectation that the process of designers will change as well. Today's design work includes the

stages of sketching, rendering, prototyping and printing expected of a communications designer used to working on either analogue or digital platforms but also new activities such as researching through design ethnography (Anderson, Bell, & Salvador, 1999; Gunn, Otto, & Charlotte Smith, 2013), collaborating with participants (Simonsen, Svabo, Malou Strandvad, Samson, Hertzum, & Hansen, 2014), and data set analysis and interpretation (Wortmann & Tuncer, 2017) in the daily grind.

2.1.3 Designing as Knowledge Production

Designing today represents therefore not only the production of a communicative object, but also the production of knowledge, of research, and of services which may or may not become artifacts in printed or digital form. This shift from product to process was in fact predicted by Cross who first described it as the development of a designerly way of knowing (1982). And in some ways, he was right. The shift began with the identification of a new way of thinking, with the new value placed on the "design ability" (1990) and with the turn towards seeing *designing* as a new kind of creative labour (Amatullo, 2016; Helfand, 2016).

Seeing designing as a form of creative labour reinforces understanding of design as a situated practice (as outlined by Paton and Dorst in their 2011 study of briefing and reframing intersections in product design) defined as both a mode of inquiry and a social practice deeply informed by the structure and context of an organization. Chaiklin and Lave's work on cognition in practice (Lave, 1988) and learning through doing in context (1993) has identified how this understanding of occupational practice provides a counter argument to descriptions of design as individual cognitive labour, extractable from and applicable outside of the social structures of the generative community of practice. This distinction also helps focus my understanding of the way design work can be understood as a form of legitimate peripheral participation (Lave & Wenger,

1991), a type of what Allhutter calls mind scripting (2012), a form of Weick and Robert's proposal of heedful interrelating (1993), an example of Orlikowski's knowing in practice (2002) or a model of situated learning (Orr, 1996) – each facet of the larger definition complementing the interactional nature of design as a form of knowledge production.

Understanding designing as an interaction between individuals that generates knowledge, rather than the cognitive process of a single creator allows for a final reframing: the interactional nature of designing allows me to position it as a practice form. By understanding *designing* to exist between two carriers of practices rather than within the mind of a single actor I decouple practices from actors, positioning the practice instead as the behavioural text of a culture (Schatzki, 1996; 2005; 2012) or the conventional, routinized, patterned and dynamic sequences of how we make do in the world (Bourdieu 1977; Jarzabkowski, 2005). As a practice, design is a "routinized type of behaviour" (Reckwitz, 2002), one which is composed of what theorists interested in a practice-based analysis of daily life such as Shove and Pantzar (2005) identify as competencies, activities, objects, understandings, and knowledge.

What then constitute the elements of designing from a practice perspective? Designing is formed first of a series of competencies: an ability to "successfully perform the practice" (Shove et al., 2016) that may include aesthetic sensibilities, knowledge of design culture, understandings of the form and function of graphic elements and digital technological savvy. The material components play their part as well: computers and war rooms, software, and communal workspace, cutting tables and the house bar. Moreover, designing as a practice requires a workplace infrastructure – a framework in which to exist – supplied by the studio space of StudioX, and the connected infrastructural components of a Canadian cultural production industry, a municipal support system, and a client relationship network. Designing is indeed

habitus, multiplied by capital, with the addition of the field as famously suggested by Bourdieu (1977; 1993), but it is also the smaller and more tangible relationships between images, skills, and stuff, or cultural understandings, competencies and material infrastructure (Shove & Pantzar, 2005) that make it a social practice.[2]

2.2 Frameworks for Understanding Designers

There are countless ways to define designers depending on the context and the author.[3] At the most basic level, to be a designer is to "devise courses of action aimed at changing existing situations into preferred ones" (Simon, 1968, p. 67). However, as Ireland (2003) and Dishman (2002) have argued, the focus on the designer's application of aesthetic and technical expertise rather than on their knowledge-based work is indicative of the debates about the role of designers more generally.

2.2.1 Designing as a Vocation

As Meggs (2011) notes in his comprehensive account of graphic design history, the word design is both a verb, and a noun, both of which originate from the Latin *signum* or sign. Those professionals who apply design, or designers, are associated with cunning, with deceit, with

[2] Why is design a practice? Understanding designing as a series of embodied practices (Schatzki, Knorr Cetina, & von Savigny, 2001) positions the tacit and explicit knowledges enacted by communication designers within the organizational culture, or field, of the design studio, and allows for an understanding of how these "forms of bodily activities, mental activities, things and their use, background knowledge in the form of understanding, know how, states of emotion and motivational knowledge" (Reckwitz, 2002, p. 249) come together. Practice itself is a contested term with lots of different interpretations. Shove et al., define practices as "a specific arrangement of elements, the cohesion of which is both constitutive of, and a consequence of, the practice itself" (2005, p. 8). Framing designing as a practice complex formed of "stuff, images and skills" (Shove, 2003) connected, or linked, through "forms of know–how, competence, and ways of doing that represent and comprise what we currently understand [a practice] to be" (Shove & Pantzar, 2005, p. 8), illuminates the way that design practice is held in place in a relational manner and is, at all times, constituted in performance by a community. Within this particular definition, the daily work of designers is framed as both cultural performance and social practice: a distinction that is itself reliant on the boundaries between the ostensive aspect of routines (or their structural purpose) within existing practices within the design studio, and the performative role of the same practice assemblage (Feldman & Pentland, 2003).

[3] Graphic designers (including digital designers) represent 45% of the 20159 Canadian designers, and are defined by Statistics Canada as those designers who are engaged in creating communicative objects in print, or digital, form (Statistics Canada, 2017). Like the rest of the interior, industrial, and engineering designers grouped into Specialized Design Services, graphic designers typically work in small firms of under 100 people and are highly educated (Statistics Canada, 2017). As of 2011, Canada had the third largest design service sector in the world: perhaps not surprising when the weight placed on this sector by Canada's drive for innovation and creativity is taken into account (Canada Innovation Foundation, 2017).

creativity, with technology, engineering, aesthetics, with commercial arts, interior spaces, typography and architecture: in short, there is very little that can't be attributed to the category of designer today. This presents a central dichotomy faced by graphic designers in particular: to be a designer often means to be creative, but not an artist – a distinction reflective of the roots of the term in association with the technical arts and machine-based work.[4] In fact, Bridgstock argues that designers are in fact neither artist, nor technician, but that they serve a *tertius iungens* role: a strategic position as the "third who joins" within a brokered relationship between client and concept (2013). The complimentary proposal introduced by McDonnell (2011) of designers as artists working under imposed order also illuminates the continued interest in this conversation today – in recent work Bowen, Durrant, Nissen, Bowers, and Wright have responded to this debate by proposing that the true value of creativity in design work lies in collaboration, not idea generation. However, it is difficult at this time to find definitions of designers that do not refer to their work as a form of personal identity. As Buchanan has argued, to be a designer is commonly presented in both popular and trade discourse as a vocation, a calling, or a gift (1995).

2.2.2 Designing as an Occupational Designation

Designers are also defined by their participation in an occupational category: designing is indeed a job. Perhaps most helpful when integrating this perspective of designing as a professional designation is the use of four complementary conceptions of designers. These include 1) cultural producers 2) members of an occupational community, 3) knowledge workers, and 4) members of a designing community of practice.

[4] Designers are also understood at a more theoretical level as cultural intermediaries – generators of both knowledge and culture caught between the fields of economy and art (Bourdieu & Johnson, 1993; Dong, Kleinsmann & Deken, 2013; Matthews & Smith Maguire, 2014; McFall, 2002) which requires an understanding of their role as producers and consumers of communicative artifacts (Mahon, 2000), and of the processes of enculturation that defines their professional position and identity (Blauvelt, 1994; Cross, 2011; Margolin, 2002). I hesitate to use this term here though, as it is places limits on membership based on occupational roles.

1. Designers as Cultural Producers

As members of a specific sector of the economic world whose participation in this sector is defined as a distinct form of labour (Hesmondhalgh & Baker, 2011) designers work within, as Banks et al. have argued, distinct political and economic imperatives (2009). To be a designer is, above all, an occupational categorization – one which both enhances and challenges the larger definition of designing as a vocation or calling. Banks, Gill and Taylor (2014) offer a rich examination of the unique features of cultural production work in creative industries, and they suggest that designers can be understood as a subgroup of a larger, yet specific and distinct group of cultural producers defined by their symbolic, aesthetic or creative labour in the arts, media and other creative or cultural industries. Extending their argument to the specific case of digital communication designers, I understand this to mean that the conditions of complexity and ambiguity commonly experienced by cultural producers in industries such as film, television, and music production are at play in the studio as well.

Using their framework, I understand digital communication designers to be both producers of knowledge and as generators of ideas, a definition that echoes characteristics identified within Traube's (1996) proposal of the "knowledge class" and Miller's (2014) proposition of the "cognitariat." In addition, using the framework of cultural producers to understand and define the designers as a unique group of professional workers focuses my attention on the high levels of both industrial and personal reflexivity identified within this type of professional community identified by Trice and Beyer (1984) and further established by Caldwell in his study of television production cultures (2008). This perspective is made most evident within literature from the field of cultural production studies which propose an understandings of designers as active, unique agents responsible for the construction,

dissemination and valuation of symbols and meaning: an approach predicated on an understanding of cultural producers as those who occupy a specific role that is both 'cultural' and 'economic' (Davis & Pickering, 2008; Negus, du Gay & Pryke, 2000). In this case, I am not employing the framework of the "cultural intermediary" as proposed by Bourdieu (1984), as this invocation of the designer as intermediary between the worlds of commerce and art poses relies on an understanding of the designer as broker, rather than as creative – a framework more fitting for those working in the field of advertising rather than knowledge creation through design.[5]

2. Designers as Members of an Occupational Community

Framing designers as cultural producers also shines a light on the ways that they engage knowledges generated *in* practice and *through* a community such as the ones identified by Orr in his study of situated learning (1996). Refining my definition of designers by adding the focusing lens of the "occupational community" identified by Orr, to the broader designation of "cultural producers" draws my attention to some of the key characteristics that Orr noted when he introduced the term. Notably, occupational communities:

1) are pervasive in their influence they exert on the norms of both work and non-work lives of members,
2) use member definitions to delineate who does and does not belong within their occupational community (and not that of the organizational structure),
3) contribute to the development of the self-identity of their members,
4) enhance and share practices that are situated, and frequently at odds with espoused practices of the organization, and

[5] For Bourdieu, cultural intermediaries are ambivalent, accidental producers of culture, members of a class of workers positioned in the middle of, and mediating between, the worlds of economy and art (p. 359). Bourdieu's conception of the cultural producer – a socially-positioned practitioner involved in production of cultural artifacts, of the taste that naturalizes and reifies those artifacts, and of the needs that drive their consumption – hinges upon a second theoretical proposal: that of the "field of cultural production." In his work The Field of Cultural Production (1993), Bourdieu re-introduces the cultural intermediary as cultural producer, suggesting that to understand cultural artifacts, we must not only read them textually, but we must consider the conditions of production, the specific logic within which the field of cultural production is characterized, and the relationship between that particular field, and the wider fields of power and class relations (Dubois, Coulangeon, & Duval, 2015). What is especially important to note is the difference between the cultural production industries, and cultures of production – as the one nests within the other both are crucial to the determination of the field that informs the practice of designing, but both impact this practice in different ways (Banks et al., 2009; Bourdieu & Johnson, 1993).

5) feature work that is narrative, and knowledge production that is shared through storytelling among members (Orr, 1996).

In his ethnographic work, Orr also introduced another key term that I rely upon to describe the context in which designing occurs: "situated practice" (1996, p. 10). In respect to the studio-based work of designers, situated practice refers to the knowledge produced within this occupational community – knowledge that designers produce through informal interactions, tacit and situational work, and storytelling among peers. This final focus on the knowledge production work of designers within an occupational community is key and is echoed in the third categorization of digital communication designers that I will use in this work: that of designers as knowledge workers.[6]

3. Designers as Knowledge Workers

As McKercher (2008) argues, knowledge workers (including those in the creative industries such as designers) demonstrate many of the characteristics of other occupational designations. Originally proposed by Drucker (1957) in his work on management in the changing economy, the category of knowledge workers encompasses professionals from accountants to scientists, as well as what Newell, Robertson, Scarbrough and Swan (2002) describe as "the more contemporary types of work" such as consulting, programming or design. Much as cultural producers do, knowledge workers use information and communication technology (Blom, Melin, & Pyöriä, 2001) to engage in problem-solving tasks (Tsoukas, 2003). As members of an

[6] Though it may still be a relatively small industry in our national space (Statistics Canada, 2017), the numbers of Canadians involved in this form of creative work is growing. According to the Graphic Designers of Canada membership data, there has been an 17% increase in cultural workers within this category from 1989 to 2016 (GDC, 2017). Increasingly, there has been significant attention paid to a Canadian design sector (Design Industry Advisory Committee, 2017a) but, as Sarah Diamond and Linda Lewis explain, "Canada's poor innovation record has been exacerbated by a reluctance to acknowledge design as a key component of innovation" (2011). Repeated attempts to develop a national design strategy in support of this key occupational category (the ill-defined Canadian National Design Policy of CNDP was officially canceled in 2011) have served to increase the gap in our larger understanding of what this form of creative labour looks like, and our understanding of the knowledge production practices that those within this category embrace.

occupational community, knowledge workers engage in non-routine work (Järvenpää & Eloranta, 2001) through collaboration (Kogan & Muller, 2006), with high levels of autonomy over that work (Robertson & Swan, 2003). But perhaps most importantly, as Barley and Orr have proposed, knowledge workers are those whose work is "comparatively complex, analytic, and even abstract, because it makes use of tools that generate symbolic representations of physical phenomena" (Barley and Orr 1997, 5). Adding this aspect of my definition of the professional designer provides me with language to describe the shifting nature of design production within professional work and draws my attention to the ways that designers as knowledge workers are situated within the larger economic ecosystem.

4. Designers as Members of a Designing Community of Practice

As Lupton has noted, this balance between artist and technician, or between occupation and vocation, has caused two seemingly contradictory changes to the occupational community (2011). The first change is the expansion of the term *designer* to include other creative occupational groups, business role holders and research or process-based workers (such as account executives, writers, strategists and the broader term of *creatives*) that, though they may not have trained in the beaux-arts model of design education, are nevertheless highly involved in producing culture (Oxman, 1999; 2004). In fact, Millman argues that this change has mobilized the designer community to become ever more insular (2011). As with other evolving professional groups, designers faced with expanding the boundaries of their community to include "others" have, at times, reacted with near xenophobia and a jealous guarding of the occupational title (Crilly, 2015). Designers decry the inclusion of "non-designers" in their professional category and take to the popular press (Helfand, 2016), social media (Burka, 2017) and design industry publications to mourn the loss of their "unique way of knowing and doing"

(Cross, 2006). With "everyone knowing Photoshop these days" (Designer A, 2017), digital communication designers have declared design itself to be dead (Design Is Dead, 2017) and have rallied together to celebrate the unique educational and cultural experience of becoming a "real" member of the community through highly specialized conferences (AIGA, 2016) and in-group communication channels (Teixeira, 2017). Conversely, defining designers as an occupational community expands the boundaries of *who* gets to be a designer: opening the field to new members previously denied entry. With the shift towards design as an occupation rather than vocation, has come an increase in designers who identify as untrained (Oxman, 2004), non-visual learners (Demirkan, 2016), amateur (Cross, 1990) and those who have never attended the hazing ritual of post-secondary design education (Dym, Agogino, Ozgur, Frey & Leifer, 2005).

One way of understanding this is to suggest that it is membership in the "community of practice" (Wenger, 1998) of designers that is the defining element of the professional identity of design practitioners, and that it is membership within this community of practice that entangles designers within both the logics and the ideologies of the studio itself. As Katz has proposed, designers are a community of people who have the beginnings of ideas about things, and the intention to make those things real (Katz 2015, p.44). Of key importance in this suggestion is the role of community. First proposed by Wenger in his work on the role of informal social practice as a foundation for learning (1998), the concept of the community of practice has served to help define the difference between groups who share an occupation, and groups who contribute to a mutual practice. In proposing the concept of "communities of practice," Wenger was trying to define how groups of individuals "… share a concern or a passion for something they do […] learn how to do it better as they interact regularly" (Wenger Trayner, 2015). By using this term, he drew attention to the role of: the domain or shared competencies of members; the community,

or relational interactions among members; and, the shared practice, or repertoire of resources that members share in and through practice.

As a community defined not only by their professional accreditation and occupational commonalities, but also by their continued mutual interaction and support, I argue that designers at work in StudioX exhibit the key features of such a community of practice. These include shared experiences; the development of collective expertise; the opportunity to learn from each other; and the application of expertise in real life (Feldman & Pentland, 2003; Seely Brown & Duguid, 1991). By deploying the framework of the community of practice to define the designer as a member of a relational, practice based and expert community (rather than the relying upon the professional designation of designer) I am attempting to reintegrate the practice of design with the practitioner's social role. This is an important distinction, for what defines a community of practice most of all is not a professional designation, but their practice itself: the embodied and situated knowledge (Orr, 1996; Chaiklin & Lave, 1993) or organizational knowledge (Nicolini, 2012) developed within and shaped by the discourse and structure of the studio space.

2.3 Contextualizing the Design Studio

Much has been written about design studios; their origins as beaux arts ateliers (Anthony, 1991), their emergence as icons of a new creative class (Florida, 2012), and the development of a distinctive culture within their walls (Julier, 2007). Meanwhile discussions of the origins of the "designerly way of knowing" (Cross, 1982) that defines design work are also rooted in the design studio context – in fact, few studies of designers take place outside of the studio (with the noted exception of Barto's 2014 study of network development among freelance graphic designers).

Recognizing the changing nature and role of the design studio in the "creative economy" – a term that is developed in the literature by Landry (2000), Florida (2012) and Howkins (2001) – requires a two-part definition of the studio culture itself. In my analysis of work practice within the context of StudioX, I frame the organization as both an epistemic culture (Knorr-Cetina, 1999), and a knowledge-intensive organization (Alvesson, 1993; 2003).

In her 1999 work on physicists and molecular biologists in scientific laboratories, Knorr Cetina proposed that an epistemic culture demonstrates the following characteristics:

1) epistemic cultures are those that "create and warrant knowledge,"
2) epistemic cultures are "amalgams of arrangements and mechanisms" which "make up how we know what we know,"
3) epistemic cultures are the sites of knowledge-in-action – unique entanglements of empirical, technological and social machinery of knowledge production, and
4) in an epistemic culture, the key product generated through labour is new forms of knowledge and of knowing (Knorr-Cetina, 1999).

Using this list of characteristics to frame the design studio as an epistemic culture – in essence, a 'lab' for creativity – reflects my aim to understand the social practice of knowledge production, rather than the organizational structure of the knowledge production machine embodied by the studio space (Knorr-Cetina, 1999).

In comparison, Alvesson defines a knowledge-intensive organization (or knowledge-intensive firm) as an ''organizatio[n] that offers to the market the use of fairly sophisticated knowledge or knowledge-based products'' (2003, p. 17). Of key importance in this secondary framework is the focus on the use and exchange of tacit knowledge as the foundation for how designers make sense of (and implement) organizational structures and discourse within their work. Though practices of tacit sharing are not well understood (Nonaka & Von Krough, 2009), adding this second lens to that of the epistemic culture provides me with a basis for understanding how design work is shifting and embracing the inherent uncertainty and ambiguity

present in the knowledge-intensive organization identified by Marin, Cordier, and Hameed (2016).

2.3.1 The Design Studio as an Epistemic Culture

As Marcus and Wang (2017) have argued, the design studio can be understood as an epistemic culture – not just a knowledge-intensive organization but one that generates new ideas and new thoughts as well. Epistemic cultures, according to Knorr-Cetina, are those "shaped by affinity, necessity, and historical coincidence, [that] determine how we know what we know" (1999, p. 1). They are those run by expert processes, using expert systems and the application of occupational expertise to refine and shape 'truths' or knowledges as end products of a machinery of thought: organizational entities that act to shape "cognitive and procedural orientations" in the production of knowledge. I am adopting this definition of the epistemic culture to describe the design studio in order to highlight, as Lees-Maffei and Houze (2010) propose, the ways that the occupational practices that come together to form the social act of knowledge production can be mapped directly onto an examination of a design studio where "solutions" in the form of "ideas" are the primary service offered.

This definition of organizations located outside of the scientific fields as epistemic cultures is not, of course, new. Most notably, Bueger's (2015) work on the United Nations and Loo in his analysis of creative knowledge work in advertising and software development (2017) engage the same use of the term as I do here. It is Loo's description of creative workplaces such as design studios as epistemic cultures that invoke to define the context of StudioX. In Loo's development of a critical framework for creative knowledge work, he argues that the tacit knowledge of 'how we do things around here' in the epistemic culture of the studio is acquired through, and resides within, social practice (Loo, 2017). As such, acts of mentorship and

legitimated forms of peripheral participation (Lave & Wenger, 1991) are key to its dissemination within the epistemic culture itself – a proposal that relies heavily on defining creative knowledge workers as a community of practice. Using this framework, I argue that designers also learn and share their tacit way of knowing through immersion in the design community, its events and "tournaments of value" (Appadurai, 1986, p. 63) and their roles as apprentices in the professional studio. In this way, the embodiment of praxis within an epistemic culture is acquisition of a critical awareness – learning "to be" in contrast with "learning about" (Duguid, 2007, p. 113) the production of knowledge.

2.3.2 The Design Studio as a Knowledge-Intensive Organization

Design studios can also be understood to be knowledge-intensive organizations – workplaces that are notorious for the high levels of ambiguity and complexity surrounding the performance of everyday work practices (Leonardi, 2015), and their organizational capacity to solve complex problems through innovative and creative approaches (Alvesson, 1993). As a knowledge-intensive organization, design studios play a role in supplying solutions – knowledge – to clients: a departure from popular conceptions of design studios as providers of material objects (Cross, 2006). As Alvesson notes, knowledge-intensive organizations such as the design studio commonly feature high levels of ambiguity which

> … characterize (a) their claimed core product of knowledge, (b) what they are doing (working with knowledge compared to behaving in ways that are loosely connected to this quality) and (c) the results of this work and its meaning (1993, p. 1006).

As Cash has (2015; 2017) further identified, uncertainty is pervasive in knowledge-intensive creative workplaces such as the design studio, and is understood as "agential, because it describes how unsure or unconfident a designer feels based on their perceived lack of knowledge" (2017, p. 3) while simultaneously acting as a driver of the design activities from

which it is derived (Cash, Hicks, & Culley, 2015; Christensen & Ball, 2017). In this way, the uncertainty that marks the knowledge economy, and which shapes the cultures of studio spaces such as that of StudioX is understood as "epistemic uncertainty" (Ball & Christensen, 2009; Ball et al., 2010), or a form of ambiguity (Alvesson, 1993) that mobilizes a "designer's metacognitive awareness of the limitations of their current knowledge or understanding" (Cash & Kreye, 2017, p. 52) to, as I understand it, act as fodder for creative and innovative work.

With that in mind, the use (and misuse) of the term "knowledge-intensive organization" (or knowledge-intensive firm) is hotly contested, as is noted by Rylander and Peppard in their analysis of how researchers mobilize the term to "perpetuate the knowledge economy rhetoric and its potential flaws" (2005, p. 1). While Alvesson described a variety of ways of understanding how organizations characterized by high levels of ambiguity and uncertainty that engaged in knowledge production could be understood (settling on the term "knowledge-intensive organization"), his work also critiqued the depiction of this type of work as unique and specialized, rather than as a form which is incorporated into a variety of organizational structures. The term "knowledge-intensive organization" is one I use carefully here, in the hope that it adds the dimension of ambiguity missing from the characterization of the design studio as solely an epistemic organization.

I adopt this definition of the design studio as a knowledge-intensive organization for two reasons. First, it draws attention to the attendant levels of ambiguity and complexity present in the work done within the walls. Second, it positions the design studio within the knowledge economy – a position reflected in Alvesson's understanding of creative work as knowledge production (1999; 2003) and Abecassis-Modeas, Mahmoud-Jouini, Dell'Era, Manceau and Verganti's understanding of the design consultancy (in particular) as a knowledge-intensive firm

(2012). With those considerations in mind, I am framing the design studio as both a knowledge-intensive organization, *and* an epistemic culture: a knowledge production machine run on practice, relational community membership, uncertainty and ambiguity. The design studio, as such, becomes not only an organizational workplace, but a social system which situates cultural producers within a social and economic network (Sullivan, 2009): one which frames the ways in which cultural producers such as designers negotiate, define and embody social forces that are then made evident in the knowledge and artifacts they produce.

2.4 Mapping the Discourse Around Design Thinking

Design thinking, it seems, is something you just can't get away from in the studio space. My first encounter with this discourse in the working spaces of StudioX was in the bathroom, where I had gone to regroup after a long morning of introduction meetings on my first day in the field. After more than four hours of one on one conversations with designers, creative directors and senior creative team management – much of which served as an audition to find out if I would be suitable to share their daily work lives with over the course of coming months – I came face to face with the shaping role of design thinking discourse in the form of an infographic posted on the mirror above the sinks. "Where did your work fit today?" it asked me, providing five helpful bubbles labeled empathize, define, ideate, prototype and test. My face was reflected squarely in the overlaps between categories labeled empathize and define: a fitting start to my efforts to understand how the discourse of design thinking was shaping and changing the work of designers.

2.4.1 Empathy and the Emergence of Design Thinking Models

Design thinking as a discourse, a method of problem solving, and a model of creative work is grounded in both empathy, and an ongoing cycle of divergent and convergent thought –

a grounding that is reflected in its development as a discourse since the 1960s and in the popular models used in its application. Prompted by the initial use of computer programs for problem solving in the early 1960s, the First Conference on Design Methods was held in London in 1962. Many designers interested in the history of the discourse, including Szczepanska (2017), trace the beginnings of the design thinking to this date, as it heralded a wave of academic debate about the role of methods and theories of designing for change, or as Buckminster Fuller called it, design science (1965). In fact, it was Archer who introduced the term "design thinking" to the world, launching the discourse that has come to stand in for so much creative work in his *Systematic Method for Designers* (1965), though the term itself is often attributed to Simon's understanding of the process as a unique, methods based approach to a commonly defined and understood problem. This definition of designing as a problem-solving activity, one that could be deployed without aesthetic expertise towards a knowledge-based solution – or as Simon put it, as "a process which aims to improve existing environments into preferred ones" (1968) – formed the basis for the now ubiquitous model for the design thinking process:

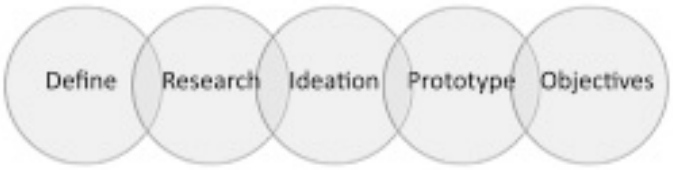

Figure 1. Simon's Model of Design Thinking. (Simon, 1968).

Central to the formulation of design thinking as a method for problem solving was the co-evolving understanding of wicked problems (Rittel & Webber, 1973), or problems that (among other characteristics) lack an inherent logic that signals when they are solved: a definition that marked design problems as wicked or interdisciplinary, multi consequential, and relational, as opposed to tame, single disciplinary problem types. As was made evident in Rittel and Webber's

work on urban planning, the twinning of rudimentary design thinking models and understandings of wicked or design problems as those that are "unique, ambiguous, and [have] no definite solution" (1973) provides context to an understanding of both the method itself, and the important role of ambiguity in knowledge work. Design thinking was understood at the time to encompass a unique knowledge of design methods, and it was at this intersection between Simon's scientific notion of design thinking as an attempt to shift the possible to the preferable, Archer's identification and definition of design thinking as unique aspect of design practice and Papanek's identification of the social role of designers (1971) that design thinking discourse was fully initiated.

Design thinking immediately spread like wildfire, and the discourse grew in the work of McKim (1972) (who proposed "express, test, cycle" as an iterative adjustment to the original Simon model) and other scholars interested in large-scale complex social and environmental issues until it didn't. By 1975 the term had all but dropped off the map, where it remained until it was resurrected and redefined by the field of design studies.

2.4.2 Defining Design Thinking

The subsequent focus on defining design thinking as a creative practice and ability marked the first major foray from the field of design studies into the discourse. Initiated in the early 1980s, the movement from within design studies to define the term more fully as located within 'design' developed out of examinations into what Cross later termed "process-creativity" (1997, p. 427). This caused a shift in the debate around design thinking – with the framework of a way of knowing or a general resource for design characterized by the cognitive aspects of design practice and creative process emerging as the dominant definition. Of note in this effort to define design thinking as somehow "designerly" was Lawson's study of design cognition in the

context of architecture and urban planning (1979) which provided the vocabulary used by Cross in his proposal of "designerly ways of knowing" (1982). This idea that "there are things to know, ways of knowing them, and ways of finding out about them that are specific to the design area" (Cross, 1982, p. 22) situated design thinking as a cognitive practice firmly based in instinct and forms of intuition that are unique to designers.

As Buchanan suggested, this positioned design thinking as a "neoteric art" – a new systemic discipline of practical reasoning and argumentation (1992, p. 22). This resonating proposal that design thinking was indeed "designerly" shaped understandings of the methodology as both an explicit process in which creative practice could be vocalized and shared (Bucciarelli, 1984; Schön, 1983) and as an intuitive and tacit way of knowing based on an extension of visual thinking (McKim, 1972), ambidextrous thinking (Faste, 1994) and creative practices of leaping and bridge building (Cross, 1997). As Kimbell proposed, by focusing on "what designers do, think and know, [and] implying that this is different to what non-designers do" (2011, p. 298), this shift drew our attention to a new wrinkle: namely that design thinking meant thinking like a designer. By incorporating the language of the studio into the larger design thinking discourse, the debates around how designers solve problems ignited by Simon (1968; 1973) crystallized into a 'process' approach to innovative problem-solving that focused more clearly on the teachable and transferable aspects of a scaffolded method.[7]

2.4.3 Ideating New Ways to Work with Design Thinking

This sense of ownership held by the field of design studies did not last long: the early 1990s brought with it a divergent thought cycle where Simon's original three-part model was exploded into a five-part framework. While Richard Buchanan worked to reconnect design

[7] This shift in the discourse was made especially evident in Buciarelli's work on engineering design (1984), Schön's work on architectural practice (1983), Rowe's work on design practice (1987), and Faste's proposal of ambidextrous thinking (1994).

thinking with its roots in social, environmental and interdisciplinary problem solving (most notably in his 1992 book *Wicked Problems in Design Thinking*, where he rejected the notion of design thinking as a science and promoted design thinking as a way for "professionals" to use "insight" into solving Rittel's wicked problems), the use of the discourse quickly became a market differentiator for design firms and academic programs. Some used it to describe the invisible work practices of creatives generally (Raff, 2012), some used it to value creative work generally (Dorst, 2011) and some started to use it to describe knowledge work generally (Dorner, 1999). Real evolutionary change in this discourse came when the international design firm IDEO adopted the terminology to define both their work and their working process. In 1991, IDEO developed and launched their five-part cycle of design thinking, a move which introduced terms that I will use here (such as ideate, or the rapid development of ideas to be either rejected or moved into prototype) into the outside – non-design – world.

Suggesting that a design thinker is simply one who knows there is never a *right* answer to a problem, researchers such as Tim Brown proposed that by following a proprietary, non-linear and iterative process that he called "inspiration, ideation and implementation", the design process itself could convert problems into opportunities (T. Brown, 2009).

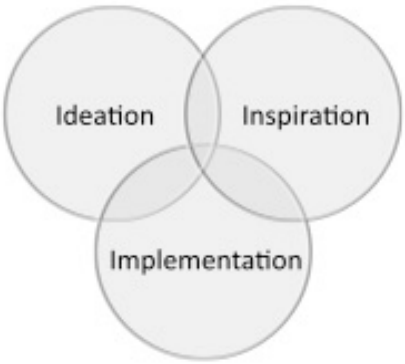

Figure 2. IDEO Design Thinking model (IDEO, 2017).

Reshaping the design thinking discourse to focus on "a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" (IDEO, 2017) shifted the discourse out of the studio and into leading academic design programs at the post-secondary level (such as Standford's d.school, and the Illinois Institute of Technology) and in K-12 education (Koh, 2015; IDEO, 2017a). This is visible at the most surface level through Google's NGram Viewer's tracking of the term "design thinking" 2000 to 2008, which indicates that use of the term increased by more than 300% during that time (Google Books, 2017).

Figure 3. Google NGram documentation of "design thinking." Accessed December 1, 2017, from GoogleBooks.com (GoogleBooks, 2017).

2.4.4 Prototypes for Design Thinking Methods

Once design thinking had been established as appropriately creative and designerly, and once some ideation work had been done outside of the studio, about how it could be applied, the prototyping began. The sheer number of business books trying to appropriate design thinking terminologies for their professional discursive practice (Carr, Halliday, King, Liedtka & Lockwood, 2010) highlights the desire to replicate the success of the models proposed by Simon, IDEO, and d.school.

Figure 4. d.School Design Thinking Model (d.school 2010; 2016).

This shift of perspectives, marked in the early 2000s by the adoption of design thinking as a marketable skill set by innovation and management studies (T. Brown, 2009; T. Kelley, 2005; Martin, 2009; Pink, 2006) positioned design thinking as a "way of looking" (D. Kelley, 2013) rather than an ability or "designerly way of knowing" (Cross, 1982). Practices of design thinking made concrete at this time diffused the discourse throughout the worlds of organizational studies, especially among those interested in how design thinking could foster innovation and refine a competitive advantage (Perks, Cooper, & Jones, 2005; Ravasi & Stigliani, 2012), and or even serve as a new form of organizational sensemaking (Abolafia, 2012). Each echoed the original definition but worked to transform and democratize this new "recipe for innovation" (IDEO, 2017b) or toolset that allowed designers and non-designers alike to become instantly creative and innovative. Additionally, managerial discourse also began to focus on design thinking practices as organizational maneuvers (Hassi & Laakso, 2011; Liedtka, 2015), as well as on empirical studies of organizations outside the space of cultural production who made use of design thinking structures (Carlgren, Elmquist, & Rauth, 2016; Carr, Halliday, King, Liedtka, & Lockwood, 2010; Rauth, 2015; Seidel & Fixson, 2012).

Design thinking was increasingly held ransom by theorists focused on its application outside of the studio, despite desperate calls for its return from design scholars and researchers (Bauer & Eagan, 2008; Helfand, 2016; Millman, 2011). The positioning of design thinking as a

strategic resource for organizations – an inherently empathetic and innovative act, distanced from the culture, education or community context of design practice and useful for anyone willing to adopt the theoretical approach – resulted in a call for the death of the term itself with Nussbaum's declaration of design thinking as a failed experiment (2011).

2.4.5 Testing Design Thinking in Practice

In what can be understood as a rejection of design thinking's movement towards applied innovation, new understandings of design thinking have begun testing the term as a way to describe an embodied, socially and materially informed practice (Kimbell, 2011; Shove, Watson, Hand, & Ingram, 2007). This latest movement within studies of design thinking re-sensitized theorists to

> "the embodied nature of professional design work, how designers and stakeholders involved in design processes move, what they think, what they do and how it feels" (Kimbell, 2009, p. 12)

This opened the door to considerations of the role of organizations and social context in design thinking practice and redefined design thinking as a service-oriented, human-centered, user-focused and participatory approach within the work of designers (Rodgers & Yee, 2015). As Julier has noted, this turn from design as a problem-solving activity to design as a problem-processing activity mirrors the shifts in design practice from multi-disciplinary approaches to interdisciplinary approaches (2000).

2.5 Design Thinking as a Discourse and a Discursive Practice

The field of organizational studies has also created space for the discourse to flourish in examinations of working and managerial practices. By reframing design thinking as a set of practices for decision making (Calabretta, Montana & Iglesias, 2008), or a set of practices of prospective sensemaking (Stigliani & Ravasi, 2012) the discourse of design thinking has indeed

reached far wider audiences than it would have had it stayed inside the studio (Liedtka, King, & Bennett, 2013). Studies of organizations now position design thinking as a form of capacity building, simultaneously a method, a technique and a strategic art (Augsten & Gekeler, 2017; Johansson-Sköldberg, Woodilla & Çetinkaya, 2013) that acts to increase the capacity of an organization to address the challenges of innovation (Dunne & Martin, 2006; Tsoukas, 2003) while activating the mechanics of conceptual development with an awareness of user needs (Gruber, de Leon, George & Thompson, 2015). Still, in this field as well there are gaps in our understanding of what design led knowledge creation might require from the perspective of learning styles (Beckman & Barry, 2007) or cognitive perspectives (Stigliani & Ravasi, 2012), or what formal contribution a design thinking orientation can make to the economic bottom line of an organization (Storgaard, 2017). None the less, this discourse has been shown to demonstrate distinction in the field of organization studies, both inside the design sector (IDEO, 2014) and outside (Hassi & Laasko, 2011; Styhre, 2016; Wang, 2015) as a set of practices for product development (Cash & Kreye, 2017), and as a management concept (Hippel & von Krogh, 2016). In fact, many point out that with the reframing of design thinking as simply "examined thinking" (Helfand, 2016), a "designerly way of knowing" (Cross, 1982) has been reconfigured as an organizational practice, rather than a creative one.

This most recent evolutionary stage has expanded the discourse to encompass the practices through which designers examine and understand what people do in their daily life, as well as the social implications of the designer's impact on material culture and the people with which they engage, as is argued in the work of Murphy (2015) and Yaneva (2013). In this way, design thinking discourse is now at its most pervasive, and expansive level to date, reaching out to include not only the methods, mindset and process of creative design practice, but also the co-

production of knowledge and material experience through participation and collaboration made possible with the toolkit presented in the models described above.

As a discourse, design thinking has changed not only our understanding of how a designerly way of thinking and knowing (Cross, 1982) can be deployed towards innovative and creative ends, but also our larger understanding of *who* is a designer, *what* product or deliverable form a design should take, and *how* design work is (or should be) conducted. The same discourse that was made visible in the bathroom of StudioX has come to dominate the field of design, and to stand in as both an explanation, and a surrogate, for an invisible process done by designers more generally. This discourse, as Helfand (2016) and Amatullo (2016) have proposed, has created a shift in the structure of the design organization, the work of design teams, and the practice of individual designers. But perhaps most notably, it has generated a shift in what designers produce: enabling an evolutionary change from a work practice that generated things to a work practice that generates thought (Bjögvinsson, Ehn, & Hillgren, 2012; Luck 2012).

The impact of this shift in *what designers produce* (from things or material products of culture to non-material problem solutions, or "things to know and ways of knowing them") is two-fold. First, it has opened the doors to designers and design studios interested in playing an enhanced role in tackling the wicked problems of both the private and public sector, as identified by Steinberg (2012) in his work on design practice as leadership in the public sector. For design studios with an appetite for larger, less defined engagements, this cultural shift in the narrative around *what* design is – what counts as a design, what artefacts or "stuff" (Shove & Pantzar, 2016) created as an output of the practice – has created an opportunity to engage large scale, complex and creatively challenging projects. Also, it has allowed interested design studios to add to their portfolio of client services. No longer are communication design studios limited to

providing printed or digital solutions to communication challenges. Now they can offer research, problem definition, corporate workshops, participant engagement and testing as additional items to their service offerings (Amatullo, 2016). This is certainly the case for StudioX, the design organization that served as a field site for this study.

2.5.1 Studying Dominant, Marginalized and Strategic Discourses Within an Organizational Context.

Grant and Iedema (2005) propose that the overlapping and multidimensional fields of organizational discourse studies and organizational discourse analysis provide a continuum of approaches to the study of the effect of discourse at an organizational level on the linkages between everyday life and the organizations that endeavor to structure the accomplishment of this practice. In choosing to examine the effect of the discourse of design thinking rather than the structure of the discourse itself (beyond my efforts to map it in this chapter), I am encouraged by Chouliaraki and Fairclough's (2010) identification of the limiting nature of the methodological protocol of a traditional organizational critical discourse analysis. In Chouliaraki and Morsing's 2009 *Media, Organizations, Identity* the issue of the structuring functions of a dominant discourse in the media and cultural production industries is discussed in a variety of contexts, each of which is helpful to contextualizing the effects of a dominant discourse (such as design thinking) and the strategic and marginalized discourses which are developed in practice in the studio organization (Heracleous, 2006). Though the analysis which follows does not take a discourse analysis approach (interdisciplinary or not), I certainly draw upon rich scholarship about how a discourse effects social practice (Oswick & David, 2004) how reflexive discursive practices make visible social practice (Alvesson, Hardy & Harley, 2008), and how

communicative practices shape collective capability (Orlikowski & Yates, 1994) to inform my analysis of how designers do design thinking.

2.5.2 The Dominant Discourse of Design Thinking: Boundary Objects and Figured Worlds

My analysis of how digital communication designers react to, embrace and mobilize the design thinking discourse in their everyday knowledge production work is reliant on two theoretical frameworks within the larger field of practice-based analysis of social life.

First, I will be using the conception of design thinking discourse as a "boundary object" (as first proposed by Star and Griesemer in 1989) to understand how "interpretive flexibility, the structure of informatics and work process needs and arrangements, and, finally, the dynamic between ill-structured and more tailored uses of the [boundary] objects" (Star, 2010, p. 601) helps the design studio translate design practice between different social worlds. As Haines outlines in her study of start-up incubator spaces (2016), "Boundary Objects" are plastic enough to adapt to constraints, but robust enough to have a common identity; they have different meanings to different parties, yet their structure is identifiable to multiple worlds, making them a means of translation" (p. 123). Design thinking discourse, as mobilized by StudioX in client facing work, audit practices, and organizational structures, can be understood to serve as such a "means of translation" (Star, 2010) while drawing my attention to how, when it is also used as a structuring device to enable the leveraging of a StudioX offering into the knowledge creation space may appear to a client group as an inviting recipe for creativity and innovation.

Secondly, I will be employing the framework of "figured worlds" (Holland, Lachicotte, Skinner & Cain, 1998) in my analysis of the ways that design teams adapt to design thinking discourse. Highlighting the functions of activity and improvisation in creating professional or occupational identity through a framework of "figured worlds" allows me to frame the ways that

designers are adapting to design thinking discourse as internal acts of reflective identity shaping, as performative acts of procedural identity production, and as acts of forming a professional identity through experimentation and participation in activities that allow them to engage in conceptual and procedural identity production (Urrieta, 2007). As Holland et al originally outlined, the work of developing or adapting a figured world is both conceptual and procedural: it is both a conceptual (and internal) sensemaking process of determining "what they want to be", and a procedural practice or performance of that identity. In the analysis which follows, I will argue that the adaptations made in reaction to the design thinking discourse by design teams and individual designers contribute to the development of a new "figured world", which is then reconstructed as a performative practice.

Since the large-scale mobilization and effect of the design thinking discourse is a relatively new phenomenon, little research has been done to understand this growth and the impact it has had on organizations and work. My aim in the following analysis is to describe the effect of this discourse in the context of the studio and the way it is shaping the work of designers and their knowledge production. In Chapter 3, I explain how I investigated this phenomenon *in situ,* by conducting fieldwork within a design studio.

Chapter 3: Studying Practice in the Design Studio

In this section, I outline my approach to the research I have been conducting on design thinking discourse and design practice since 2016. First, I contextualize my understanding of what it means to take an ethnographic approach. I then highlight how the theoretical findings I will present emerged from data collection that included the use of design research practices, and the prioritization of participant-led data collection methods in the field. I then paint a picture of the organization that served as a field site (a digital communication design studio) and describe the fieldwork I conducted there. Next, I present the different forms of data that were generated collaboratively as part of this study, and the development of the analysis and synthesis that followed. Finally, I emphasize the role of reflexivity in my work and the impact of researching designers from a subject position as a member of their extended occupational community.

3.1 An Ethnographic Approach

An ethnographic approach "has emerged as a particularly effective and popular approach to researching cultural processes" (Turner, 1990, quoted in Van Loon, 2001, p. 3). Taking an ethnographic approach to studying cultural producers, as in most ethnographic research, means using methods such as interviews, participant and non-participant observation, and the study of documents and artifacts to generate an interpretive and constructivist understanding of the beliefs and practices of a community (Davis & Pickering, 2008; Keating, Atkinson, Coffey, Delamont, Lofland, & Lofland., 2001). That said, there are multiple understandings of what an ethnographic approach might entail. As Gains has outlined in her examination of fieldwork among elites within government and politics, an ethnographic approach can be understood on a continuum from method (or technique for "accessing and analyzing observations") to "interpretivist methodology with attendant ontological and epistemological underpinnings" (Gains, 2011, p.

161). In this case, I am using an ethnographic approach to focus on what Jenson (1984) has described as an interpretive way of studying media industries: an approach which highlights the use of case studies and complements the use of participant-generated fieldwork practices.[8] This approach extends to my data collection, analysis and synthesis, which is framed by a field-work centric engagement with and in a world aimed at gathering and understanding rich and detailed data. I draw support for the use of this approach from Brewer's definition of "ethnography-understood-as-fieldwork" (Brewer, 2000, p. 17), rather than the use of ethnography as a term that defines qualitative research as a whole.

An ethnographic approach to understanding the impact of design thinking discourse on design practice assumes that an organizational culture begins not with the organizational flow chart, but "on ground level, with footsteps" (de Certeau, 1984). In asking how designers do what they do when they do what they do in this study, I sought not only to walk in their footsteps but in their shoes. For this aim, traditional ethnographic methods of participant observation and interviews combined with research practices was an ideal fit. Using this methodological approach allowed me to focus on considerations of cultural production as a lived practice engaged within both an occupational culture and a community of practice (Davis & Pickering, 2008; Orr, 1996).[9] By engaging methods from both the social sciences and research practices developed by the design community in collaboration with study participants, I was able to focus not only on *what* designers *do* in reaction to design thinking discourse, but also *how* they *did* it, and to focus on unspoken knowledges enacted or embodied by this particular social group.

[8] When understood as a product rather than a process, ethnography stands as an interpretive account of a culture (Geertz, 1973), crafted and understood as one of several forms of narrative tale (Van Maanen, 2011), performance (Conquergood, 2013) or production (Pink, 2014).

[9] Participant observation (with the aim of developing an ethnography as an outcome as described by Tedlock in 1991 and 2000) has proven to be an effective research methodology within both the fields of communication design scholarship (Barab & Duffy, 2011; Gunn, Otto, & Charlotte Smith, 2013; Jackson & Aakhus, 2014) and organizational practice theory (Platt, Crothers, Horgan, 2012; Watson, 2012b) interested in examinations of cultural production and cultural producers.

Employing research methods that were in keeping with both this particular community of practice's epistemic framework, and the accepted methods in the field of organizational and cultural production studies (Banks et al., 2009; Ettema, 1982; Nicolini, Gherardi, & Yannow, 2003), meant that the fieldwork phase of this research aligned closely with the constructivist and interpretivist epistemological perspective of contemporary ethnography, as well as its data collection practices (Brewer, 2000).[10] In taking an ethnographic approach to data collection, I mean two things. First, I mean that my research was field-work based and enacted using core ethnographic methods such as participant observation and semi-structured interviews aimed at gathering "rich" data. Second, I studied those involved in designing – the designers, copywriters, creative directors and production team members engaged in design practice. In doing so, I adopted an "intellectual (and moral) positionality – a constructive and interpretive mode – as it is a bodily process in space and time" (Ortner, 2006, p. 42) aimed at generating "thick" descriptions based on "being there" (Borneman & Hammoudi, 2009).

By an ethnographic approach, I also mean one that was "experience near" (Geertz, Rabinow, & Sullivan, 1976): reflexive, participant-oriented, and aimed at developing an interpretive theory. This was essential to support the use of a practice-based theoretical framework in this research. By providing an alternative to the view that experiences, beliefs, and practices are simply evidence of the underlying structure of social life within a workplace, an "experience near" approach allowed for an understanding of how those experiences and practices

[10] Ethnographic studies of the working practices of cultural producers form one of many branches of the field of workplace and organizational ethnography: a field which provides an 'insider' view into the ways that routine jobs are complex, that complex jobs are routine, and that power, inequality and control are sustained (Smith, 2001, p. 3). As Smith proposes, traditional approaches to workplace ethnography provide "rich and contextualized understandings of work, workplaces and occupations through observation, participation and/or immersion" (2001, p. 3), demanding sustained and often multi-sited participation in the field, and unique forms of observation on the part of the researcher. In particular, ethnographies among cultures of expertise, as suggested by Holmes and Marcus (2005) pose additional opportunities and challenges to the researcher

formed the structure itself. In addition, the use of an "experience near" approach to analyzing practices establishes structure as a frame of action (Goffman, 1981) or a way in which people "see, describe and jointly develop a definition of a situation" (Koskinen, Zimmerman, Binder, Redstrom, & Wensveen, 2011, p. 16). Without a methodological framework that asserted that there is an observable and identifiable form of social activity that a researcher can discern from the expression of ordinary beliefs, practices and lived experiences (Geertz, 1973; 1976), I would not have been able to understand how designers were adapting and evolving their practice in reaction to the design thinking discourse.

By engaging with cultures of production using an ethnographic approach, I was also able to analyze and interpret the ways that design thinking discourse was transforming the structure of the studio, the work of the design team, and the practice of the individual designers, and to develop a theoretical interpretation informed by rich, embodied and experiential data. Taking an ethnographic approach allowed me to answer questions about practice and the organizational forces that define and shape knowledge production: In the remainder of this chapter, I will address the methodological approach that defines this study, the specific details of how I conducted this research, and the field site of the design studio that was "not localized…but rather spatialized" (de Certeau, 1984) by the footsteps that I followed in this ethnographic, reflexive and collaborative work.

3.2. Layered Approaches to Studying the Design Studio

To examine how the discourse of design thinking is impacting the practice of designing at the studio, team and individual practitioner levels, I used a layered approach to my field-work. By this, I mean that I made every effort to adopt not only the vocabulary of the participants in this study to describe their daily practice but also their own 'local' research methods. By

overlaying what design studies scholars have called "design-led research methods" (Crouch & Pearce, 2012) onto more traditional ethnographic fieldwork approaches, and by prioritizing a collaborative approach to the generation, collection, analysis, and interpretation of data, I was able to work closely with both the espoused values of this community and, in some ways, their practice of research as well.

3.2.1 Embracing Design Led Research

It is important to remember that designers are a unique expert group of cultural producers, and though they may be comfortable collaborating using ethnographic methods, it does not mean they see themselves as ethnographers. An understanding of how ethnographic methodologies are being interpreted as a tool for use by designers in their own professional creative process was essential to developing a collaborative and participant-led data collection approach in the fieldwork for this study.[11] Understanding the difference between the rigors of ethnographic methodology within my research work, and the adaptation of participant observation, interviews, and data elicitation methods in the studio setting provided an interesting challenge. I knew that designers had their own research methods (McCracken, 2008; Pink, 2014). And I knew that adopting their "local" research methods would help me understand how design thinking discourse was being made visible in their work practices. However, what I meant by ethnography, and what they meant by ethnography, differed greatly.

Indeed, the designers who participated in this collaboration had a strong idea of just what ethnographic research was good for, and how it should be done. The use of ethnographic methods in design practice has a long history, both naïve and academic, and has recently

[11] Suchman, Blomberg, Orr and Trigg (1999) provide the seminal account of the use of ethnographic practice as a research methodology within cultural production, and Wasson has taken many of the same ideas up in her study of ethnography in the field of design (Wasson, 2000).

acquired the focused attention of design studies more broadly (Rodgers & Yee, 2015). With the growing requirement of empirical research in the generation, justification and promotion of designed services, products and images, the use of hybrid forms of observational fieldwork has become an accepted component of the daily practice of designers (Anderson et al., 1999; Gunn et al., 2013; Laurel, 2003; Lupton, 2011). This does not, however, mean that the practical definition held by designers of what an ethnographer 'does,' what 'counts' as ethnography, and what is accepted and unaccepted practice in this field, mirrors that of the researcher.[12] The existence of designer-led understandings of what constitutes appropriate and effective research practice was a defining feature in my field-work; one made especially visible in the differing standpoints regarding the role and purpose of ethnographic methods. For example, from the perspective of the designer, intervention within the community of study is considered to be a desirable outcome of research practice (Barab & Duffy, 2011), an epistemological perspective challenged by a focus on the observational and non-interventionist goals of ethnographic traditions from within the academy (Angrosino & Rosenberg, 2011; Gunn et al., 2013).

To meet this challenge, I turned to the tools that designers themselves were using in their creative work. By using methods familiar to (and accepted by) designers to engage them in discussions of their own practice, I was able to convert the restrictive nature of the pre-existing understanding that designers have of what "counts" as ethnography into a constructive aspect of the field-work. As Born encountered in her study of the BBC, access to a field of study does not in itself guarantee that a researcher's presence is welcome or that cooperation is encouraged, and this issue of access is often exacerbated in the presence of competing methodological approaches

[12] This pre-existing impression of the parameters, application and intention of ethnographic practice extends to complicating the role of researchers and their claim to analysis. Some go so far as to suggest that everyone is already an ethnographer, and that it is merely the deliberate application of the method, not the generating of analytic findings, that differentiates the researcher from the researched (Sharma, 2016). Negotiating access, in cases like this, can be particularly fraught (Siwale, 2015).

(Born, 2004, p. 12). Working *with* the methodologies already present in the design studio, including multi-sited, performance-based and iterative data analysis methods (Crouch & Pearce, 2012), forms of shadowing, data elicitation methods, iterative memos, visual coding schemes (Rodgers & Yee, 2015) and visual storytelling (Laurel, 2003; Pink, 2014), allowed me to collaborate with designers in creating a practice-based description of the ways that they are impacted by, the ways that they mobilize, or how they adapt to the design thinking discourse.[13]

This use of local and designer-led methods of observational and visual research allowed for a collaborative and mutually-beneficial research practice. By using methods and approaches selected by, and in some cases created by, my community of study (Anderson et al., 1999), I was able to navigate the use of an ethnographic approach within a knowledge-producing, epistemic and knowledge-intensive community of designers. This use of design research methods extended as well to the structuring of analysis and synthesis: at the urging of study participants I have adopted the design thinking framework of empathize, define, ideate, prototype, and test to structure the analysis presented here. In this dissertation, I have chosen to extend this structural framework into the way I have presented the review of the relevant literature and the analysis of findings.

3.2.2 Integrating Participant-Led Data Collection

Since the design teams that participated in this case study were themselves producers of interpretation and analysis through ethnographic methods, the use of the design research toolkit

[13] For example, one method common to both academic and designer-led research is 'shadowing' (Rodgers & Yee, 2015), and in an attempt to make best use of this commonality, I engaged Gill's "spect-acting" (2011): a variation on shadowing originally proposed by Boal (1985) in his work *Theatre of the Oppressed,* that is commonly used in organizational ethnography to allow space for issues of reflexivity, and the observational effect on practice as a way to "follow the practitioner" through the career of a practice form – as a fieldwork method.

in fieldwork also presented a unique and exciting opportunity for the integration of participant-led data collection methods (Wadham & Warran, 2014). In practice, this meant implementing two guiding principles for the study methodology.

First, it means prioritizing the joint production of knowledge with organizational members who were actively interested in theorizing their own practice. In their role as knowledge producers, designers at StudioX come to their practice every day with an understanding of the theoretical and methodological approaches which influenced their perspective, and which defined a large portion of their organizational identity. Also, these designers were highly invested in the reflexive description of their own culture and had developed the ability to "play the role of culture analysts themselves" (Mills & Ratcliffe, 2012).

Secondly, since the fieldwork I conducted was guided by the research methods employed by the design practitioners themselves, prioritizing participant-led data collection allowed the design teams to contribute to the data gathering, interpretation and analysis processes and to use their own 'toolkit' of practices and activities to help structure the stages of research engagement. Using design-led research methods extended beyond the use of member checks to including the designers in analysis and in the development of an interpretive theory about how they and their practices were changing in reaction to design thinking discourse. Actor-produced perspectives marked, but not defined, by organizational structures and material assemblages, were treated as "partial visions" (Islam, 2015, p. 239) and were analyzed collaboratively by both myself and the participating design practitioners. Designers contributed to data sorting and coding exercises on site. I generated and shared many of my fieldnotes (including observations from pitch presentations, small team brainstorms, client meetings, hallway interviews and shadowing sessions) in a collaborative online working space mandated for use as part of their StudioX client

work process to enable the design team to provide additional commentary and perspective. Design teams also participated in data analysis by translating organizational documents and work-flow structures into participant generated process maps that more accurately represented how they understood their practice forms.

This direction was made possible by the ways in which designers were already working with theoretical and methodological approaches informed by an ethnographic approach – work which as Feast and Melles (2010) propose, primed them to be highly reflexive about their community of practice within the organization, and their practice as knowledge and creative workers within a larger cultural segment. As Feyerabend (1975) notes, much of the data generated through participant observation and semi-structured interviews conducted in collaboration with knowledge-workers (such as design practitioners) is by nature informed by theoretical perspectives generated through their participation in a particular community of practice. As knowledge workers and researchers, participant members of the design team were eager to contribute and to collaborate, actively articulating the performance and practice of doing designing in ways that were both "conventional and reflexive, reflecting both knowledge of the common sense of organizations and the limits of that common sense" (Islam, 2015, p. 243). A design-driven and participant-led approach allowed designers to participate in making visible the social structure, theoretical perspectives and cultural implications of their working world using their own tools.

3.3 The Field Site.

As previously described, the analysis presented here centers on field-work I conducted at a large Canadian digital communication design studio in 2016 and 2017. Here, I intend to give

more detailed context about this studio and to offer a summary of what it meant to do ethnographic fieldwork there.

3.3.1 StudioX

The design consultancy in which I conducted this research is located in a major Canadian city and has offices in 11 countries. The specific location in which I spent my time was established in 2000 and is the largest with over 204 employees in this studio space: 76 on the "creative" side and 128 on the "support" or "business" side as of mid-year 2017.[14] This made it one of the largest design service organization specializing in digital communication and digital experience offerings in the Canadian landscape (Statistics Canada, 2017). My specific area of focus within this organization was the half dedicated to the "creative" side of the work.

I selected this field-work site from a larger sample of Canadian design studios because of its ongoing engagement with the development of digital communication design, its engagement with the discourse of design thinking, and its ambiguous and experimental projects.
For the purposes of this analysis, and at the request of the organization's President, I will refer to this part of the larger organization as StudioX.

Table 1: StudioX Creative Side vs. Business Side Team Functions

Studio Space	Remaining Office Space	
Creative Team Members	Support Team Members	Business Team Members

[14] This 'support' or 'business' side of StudioX was dedicated to account management, finance, human resources, supply management and senior executives leading the three branches of design, user experience and strategy that formed the pillars of this studio model.

Designers and Production Staff	Operations management	Marketing
Copywriters	Accounting	Business analytics
User Experience Designers	Human resources	Project Management
Creative Directors	Administrative staff	Account Management
Art Directors	Business development	Senior Administration
User Experience Architects		
Production staff		

Table 1. Organizational Space Breakdown by Team Function

StudioX stands as an example of a common model of the North American design workplace, but even more so, it provides a case study of what communication design in the Canadian context entails. For example, most of their clients are international (not local), and those that are located in Canada have smaller budgets and less reach for their campaigns or initiatives. Most of the creative team had trained in one of five undergraduate design programs in Canada. Furthermore, since most clients are not in Canada, a large portion of the work is done in collaboration with American agencies, American design consultancies, and international production resources. StudioX supports clients by developing what they describe as "experiences": digital engagements, communicative material artifacts and online services that connected the client's brand and market offerings with the needs of end users. With what those in the design industry describe as the holy trinity of clients (a major automotive account, an international telecom account, and a global food and beverage account) and more than 100 other local and international clients, StudioX is a leader in the communication and digital design community. The studio has also gained recognition on the international stage as being the force behind a long series of award-winning and industry changing campaigns and projects.[15]

[15] This information was gathered from the analysis of internal reports, annual reports, studio websites, employee on-boarding

Within this larger workplace is an area that designers sometimes referred to as Oz. This "creative" side of the organization had much in common with the fictional emerald land ruled by a mystical leader: it existed behind locked doors and was rarely visited by those in the real world, or on the "business side", it was ruled by all-powerful and all-knowing directors, and what happened inside was certainly considered magic by those in human resources, accounts and office administration. Where it differed, however, was what was behind the curtain (or in this case, the living wall of succulents). Instead of an empty chair, the "creative" – or Studio – side of the organization was a bustling hive of activity in an open-plan space populated by designers, copywriters, user experience architects, senior creative leadership and shelf after shelf of shining gold awards. The creative teams at StudioX are structured as follows:

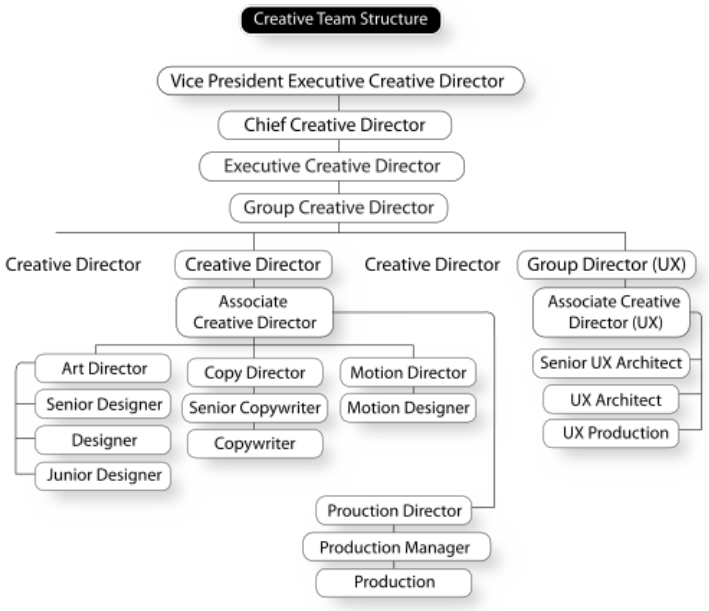

Figure 5. Organizational Flow Chart of StudioX's Creative Team Structure.

What was especially important to note was the unique culture of this studio space in comparison with the other half of the larger workplace. The "creative" side of StudioX served as

materials and promotional materials.

both an atelier and an incubator, but, more importantly, as a lab created for experimentation and the *making* of knowledge. And making was indeed happening in there: the space featured photography studios, an animation studio, sound recording equipment and more digital technology than it did human agents.

To understand the ways that the discourse of design thinking is shaping the work of designing in the studio, I observed a project team doing their "making" as they worked on a single, long-term and high-stakes knowledge creation project. All of the members of this design team self-identified as creatives or designers at StudioX who worked in graphic, digital and experience design, and participating respondents were limited to those employed as part of StudioX during the time of the study. I considered the sample of designers complete when I had reached saturation, and when respondents included 16 men and 11 women – a gender balance representational of the larger industry (Statistics Canada, 2017).

The design team that I observed was typical of others within the StudioX organization: most teams feature up to eight designers at junior and intermediate levels, one strategic director, a copywriter and a creative director. This team structure mirrors that employed by other agencies and design consultancies of this size in Canada (GDC, 2017). Members of this particular design team had an average of eleven years of professional experience and four years of post-secondary education, most in certificate or Bachelor of Fine Art programs in Canada (except for international team members). Of note, all members of the design team had been employed at this design studio for five years or more, which is anomalous in an industry marked by short-term contracts and high levels of career change (Statistics Canada, 2017).

StudioX was an excellent place to conduct this extended case study for three reasons. First, the organization is actively changing their suite of client offerings to be more focused on

knowledge creation and on "problem-solving" than "product-making" (StudioX, 2017). Second, this particular studio engaged with the use of qualitative research methods as part of their client-facing services and as such were both eager and able to collaborate on this specific study of the impact of design thinking discourse. And third, they were about to embark on an especially ambiguous and ambitious project known as docket #3082 which had, as its primary outcome, the creation of knowledge (rather than a specific product) for the client. Fortunately, this exciting project began during my first days in the field, and it provided an excellent case study of designers at different phases of creative work.

3.4 Fieldwork

3.4.1 Approach and Entry

When I first approached StudioX, I was well prepared for rejection. Based on my previous ethnographic field-work in the design industry (which resulted in 31 rejections before finding an organization willing to have me conduct participant observation with their design team), I knew that creative agencies of any kind tend to be wary about having a researcher work within their walls. This is, of course, ironic: design agencies are never shy about adopting the methods of the social sciences to improve their user or audience research (Van Vaggel, 2005). But having someone come in: well, that is a different story. So, it was incredible to me when my first recruitment email to my ideal site for fieldwork garnered a reply from the president of the company within moments. "Come on in, and we'll work something out," he wrote, a welcome that was reiterated in interviews with members of the StudioX senior leadership teams that I conducted over the course of the next week. After one hour-long briefing interview with the President held in the center of the open-plan workspace (conducted with curious creatives buzzing around like flies), a brief tour of both the administrative and the studio or "creative" side

of the workplace with his administrative assistant, and several emails with the legal team to ensure that I would adhere to client confidentiality and non-disclosure agreements, I was introduced to the design teams by email. Then, I was immediately, and collectively, ignored.

3.4.2 Beginning

The individual design practitioners who participated in this aspect of the study were recruited through that first organizational email from the President of StudioX, and though all would soon become enthusiastic collaborators, it seemed that, at first, they could not see me at all. That said, it does not take long, when you are a designer studying designers doing designing, to start getting accepted as one of the team. This is especially true when the teams with which you are studying are as engaged and involved with the question of how their practice is changing as those at StudioX. After getting the staff list from the receptionist and emailing around to set up introduction interviews with creative directors from three different teams, the scope of what I might be able to explore with the design practitioners became clear, and our joint areas of interest crystallized. In reaction to the increasing presence of design thinking discourse in their practice and the high levels of levels of ambiguity and uncertainty inherent in their project-based work, they too were becoming interested in how designers worked as a community to evolve their practice from "product" to "knowledge" creation. After two days of floating from couch to office space, I found a desk left open for contract workers within a team pod that was beginning the new, long-term project. I dusted off my design practitioner wardrobe from my own days working in a studio, and I settled in to try to observe the practice of this distinctive occupational community.

Since this research study entailed daily participant observation, interviews and participant-led collaborative data collection over the course of 10 months in a busy workspace, I

was there enough, among enough coming and going, to have team members start to ask, "have we hired you yet?" With ever-increasing amounts of access to organizational documents, client meetings, daily team-work and studio-wide events, it started to feel as if they might have. Fieldwork in the culture of StudioX gave me a look into the "behind the curtain" workings of cultural production in a busy and growing organizational culture in a way that made me feel more like an unpaid employee than an external researcher. By gathering empirical data from designers in both the organizational context of the studio, and through interviews about their own habitual, regulated and creative practice (itself defined by their membership in the organization), I began to develop a clear understanding of how designers themselves defined the way their work was shaped by the design thinking discourse at an individual, team, and organizational level.

3.4.3 Data collection

Doing research work in StudioX was exciting. After all, this was access to a leading community of practice with an interest in, and a familiarity with, both my research project and methodological approach. Field-work involved daily shadowing (Gill, 2011) of individual designers and design teams, 21 semi-structured interviews with 24 designers, analysis of organizational artifacts such as pitch-decks (or presentation files), organizational charts, internal memos, and shared drives, and documentation (both audio and visual) of the practices and discourse of individual design practitioners. In addition, data was collected using both collaborative and personal field notes generated during my observation of an array of activities such as meetings, presentations and briefing sessions, and the collaborative analysis of artifacts such as time sheets, billing metrics, templates, briefing documents, audience analysis and client presentations as examples of organizational culture made material.

In total, conducting field-work with design teams using this ethnographic approach allowed for the exploration of "a particular set of social processes in a particular context" as suggested by Mason (1996, p. 91). Though the combination of participant-led data collection and design-based research methods did complicate some aspects of a "traditional" ethnographic approach (notably by including participants in the definition of the research question, and in the preliminary coding and analysis of field notes, their own interview transcripts and thematic category findings), entering the field, gaining a functional identity and terminating research work proceeded along expected lines (Angrosino et al., 2011).

I was also lucky to have the chance – quite early on in the fieldwork – to conduct a series of meetings with senior leadership on both the administrative team (including the President and Chief Strategy Officer) and the creative team (including eight Designers and the Senior Creative Director) which set the tone for further work – a tone that was communicated through the rumor mill down to the lowliest intern. This access was aided by two factors: first, this is an industry highly invested in their own reflexivity (Caldwell, 2008). In short, design practitioners believe that they are worth studying, the case for conducting participant observation in their offices is therefore much easier to make. Secondly, I was adopted early on by a key gatekeeper at the team level. Stephanie led the strategy development for the team that I started working with, and together with her project manager, she made her Outlook calendar accessible to me so that I could join in on meetings as they came up. This peek behind the curtain made for easier access to some of the more informal team gatherings, as well as to the highly structured multi-participant client pitches and briefing meetings that design teams conducted in the studio, and over video conferencing. Even more importantly, having Stephanie re-introducing me at each meeting by saying "This is AnneMarie, she's here working with us for a while, don't worry she's all caught

up" framed me as a team member and welcomed me into a more insider position: a kindness which was incredibly valuable for my access within this boundaried community (Garsten & Nyqvist, 2013).[16]

After entering the field with the support of the type of key gatekeepers that are essential to access to such a community (Fine, & Morrill, 1997) such as the President, the senior leadership team, and Stephanie (Fine, Morrill, & Surianarian, 2009), and embedding with a specific team at work on the initial stages of a long-term project, I was supported by a guide who decoded some of the more obscure aspects of working in StudioX. It was Michael who first let me in on the ways of this community: what teams should I approach for observation, where exactly was Trader Joe's anyways, and why was there a bar cart staffed by interns roaming the halls? My initial contact with Michael was "warmed" by my knowledge of both the larger industry and the local community, and our shared involvement with design organizations such as the Graphic Designers of Canada, the Service Design Network and the American Institute of Graphic Artists.

To aid in the further analysis of the data generated through this collaborative work, I maintained an extensive field note journal which stretched to several booklets of notes about events, interactions and contextual information with the aim of contributing to the larger narrative of designing that I was trying to construct (Van Maanen, 2011). I also used iterative memoing throughout my field-work to develop, challenge and contextualize my perspective. The work of balancing the specific and immediate detail presented by my daily observations with the level of abstraction required to contextualize the larger practice of the design team required

[16] Consent, in this study as with all research work, was an ongoing process. At the beginning of each meeting, I was re-introduced to the group, and each group member had the opportunity to decline participation. Several designers did so at first, and their contributions to meetings and group discussions are not included here. That said, some of those designers who chose not to participate at first later joined the study, a change which was only possible in such an informed and continual consent process.

constant shifting on my part (Geertz, 1973) as did my negotiations with participants about what was worthy of noting down and what was not (Smith, 2001).

3.4.4 Analysis

I coded the data generated through observation, collaboration, and interview work in two ways. First, I grouped and loosely coded the data thematically according to the types of design engagements I observed (desk side briefings, team concept generation brainstorms, individual critiques, or client pitches), the participants (design practitioners, senior creative leadership, clients) and the stages of the project that they were working on (empathy, problem definition, ideation, prototyping, and testing). I then returned to the design team to engage in the collaborative analysis of this loosely coded data set. To do this, we used GoogleDrive to encourage reflexivity (Kulick, 2015) and to capitalize on existing professional knowledge (Islam, 2015). We worked collaboratively with field notes about specific engagements or observations (specific team engagements or exemplars of specific project stages) and used the framework of design thinking discourse to understand better our reconstruction and extension of theories of practice that we were developing through this work (Burawoy, 1998). Specific interview transcripts were reviewed by myself and the interviewee with the same intent (Van Loon et al., 2001), and coded in a similar fashion.

Secondly, after the data collection and the collaborative analysis work was finalized, I used qualitative content analysis to derive coding categories directly from the collected and transcribed data (Hsieh, & Shannon, 2005) using a descriptive approach to examine the larger narrative presented in field notes and interview text (Sparker, 2005; Braun & Clarke, 2006) while taking into account the collaborative analysis work we had done as a form of data as well. Emerging themes from this final phase of analysis were operationalized using indicators such as

the introduction of new or recently adopted forms of practice, the structure of professional work, and new changes in organizational routines in support of new practices (Dobson, 2001). The themes developed in this way were then synthesized to generate further thought about the dominant social discourse surrounding creative work, while prioritizing the participant's localized experience (Geertz et al., 1976; Marcus, 2008) of the shaping and structuring force of design thinking in their work, the professional expectations which guide their practice, and the ways in which they describe, promote and discuss those practices (Collins & Gallinat, 2010).

3.4.5 Exiting the field

Field-work was concluded once the design teams and I had gained a "critical threshold of interpretive competence" (Lindlof & Taylor, 2011, p. 129) and once the project (docket #3082) that we were using for our own research had come to an end. Though the use of collaborative methods within an ethnographic approach informed by design research methods can serve to complicate the expectations, roles, and positions of both participants and the researcher, it does, at least, serve to draw a clear end to the research project. I concluded field-work once the team had completed the long-term project that they were working on, had collaboratively examined the data collected in the light of the impact of the design thinking discourse that increasingly defined their studio work, had completed member checks and had taken their chance to provide feedback. I terminated my time in the field after sharing my preliminary analysis with the design team, with the promise to share the final write up (or "nerd book" as the team called it) once my work in developing an interpretive theory was complete. I have since shared my theoretical work and this process, along with the member checks put in place along the way, has been both positive and terrifying. Designer participants have contributed their insight and opened their creative process to me as part of this study, and while it was intensely vulnerable to present my

interpretation of their work practices to them for review, their comments and additions have made the description of what it means to design in a studio space marked by design thinking discourse much richer. Leaving the studio for the last time was bittersweet: working in this environment was fast paced but often overwhelming, and I was looking forward to diving deeper into the preliminary models that we had developed as a team to contextualize them further within the existing theoretical frameworks.

3.5 Considerations.

Finally, I want to highlight the impact my own subject position role as a designer and as a researcher, and the importance of a reflexive subject position in this work. As Law has argued, "methods don't just describe social realities but are also involved in creating them" (Law, 2004), providing a glimpse into a central debate of ethnographic research – namely the impact of speaking for others, and the impact of observational research methods on cultures of study (Clifford & Marcus, 2010). To lessen this impact, in my study of StudioX it was imperative that I was able to take a reflexive position within both the creation and the telling of a narrative owned and embodied by another, a position informed by the rich field of work on reflexivity in visual ethnography and the production of visual culture (Alcoff, 1992; Bromley & Carter, 2008; Kulick, 2015; Myerhoff & Ruby, 1982). The reflexivity required to study the practice of designing was, and is, complicated by my own dual position as a designer. I completed a post-secondary Bachelor of Design program for my undergraduate education and worked as a graphic communication designer for ten years in branding, digital communication and publication design in studios across Canada. I have always been a designer and this, like all subject positions, is a hard thing to shake.

Engaging in ethnographic research as a "member" – even when this membership is outdated – enhances issues of power, access and the contested nature of interpreting someone else's work world. Of key importance as I consider the engagement of ethnographic methods from my own position as a member of the culture within which I study is the impact of the power balance between the participants and the researcher (Radway, 1989). A full understanding of this power balance requires recognizing design practitioners as members of a "guarded cultural elites" (Rhodes, Noordegraaf & 't Hart, 2007) who may, and might, "read what I write" (Brettell, 1996).

3.5.1 On Being a Designer Turned Ethnographer.

As Czarniawska and Mazza (2003) have suggested, occupying a liminal "insider" space in a community can allow for increased access and a strengthened bond with research participants. This certainly reflected what I felt while conducting this research since I had shared many of the experiences that defined membership within the community of practice. I too have physical scars on my thighs and fingers from accidents with Exacto knives during late night pitch preparation sessions. I too can recognize the smell of Plaka, an ink-like substance that was used to practice font design before programs like Adobe Illustrator changed our shared industry. And, I too can speak the intra-community jargon about kerning, layout, user testing and the historic typographic battles between Sagmeister and Larson, while maintaining the right amount of interest in the arcane and obscure topics that fascinate our tribe. We shared an educational and professional history, but even more so, we shared a sensibility developed over years of legitimated peripheral participation in the world of 'designers' that only other members of the graphic and communication design community possessed.

As has been noted in analyses of ethnographies conducted from the standpoint of a quasi-community member, the activation of insider status can be a corrective measure when issues of access and barriers to participation prove impossible to resolve (Khan, 2011; Wels, 2015). By mobilizing my own subject position of 'real' designer. I assumed the "betwixt and between" (Halse & Clark, 2008) standpoint of designer-turned-ethnographer, thus mitigating the precarity of my situation as a researcher, and the outlined issues of access presented in studies of cultural producers. This is not, of course, a new approach: as Mears has pointed out,

> ...many an ethnographer could be called, for example, the boxer–turned–sociologist, in Wacquant's case, the factory worker (Burawoy 1979), convenience store clerk (McDermott 2006), or hustler–turned–sociologist (Venkatesh, 2002) (2013, p. 21).

Mobilizing my own background as a designer allowed, as Winters (2012) proposed in his call for further studies of graphic designers, for a practitioner-researcher contribution that is especially well suited to studies of cultural production in general, and of communication design – my acknowledgement as a member of the professional and occupational community (if not the specific community of practice identified within the walls of StudioX) was the basis of an "embedded" type of approach . This allowed me to gain authorized access to cultural producers with the intent of furthering research interests identified as important by the group itself, thus providing a service to the community of study. Trading upon my history and membership as a designer mitigated the challenge of gaining access to a closely-guarded community, concerns with issues of disclosure to "outsiders" in the field, and the acceptance of the data analysis I presented for member checks throughout the research process (Banks et al., 2009, p. 10).

To say that I traded upon my history and membership in the community, however, also indicates a transactional aspect of this study. In the initial days of field-work at StudioX, I was often asked "what are we getting out of this?" This question was not surprising given the

"embedded" nature of my work. By describing this work as "embedded" (Reiter-Theil, 2004), I mean that the field-work centered on research conducted as a "member of a team," which positioned me within the field as a team member alongside co-workers in this community of study (Reiter-Theil, 2004, p. 23). In essence, embedded research is a "situationally appropriate way of 'doing' ethnography that is founded on the principles and practice of fieldwork while being responsive to working with reflexive collaborators" (Lewis & Russell, 2011, p. 401).

Embedded research, much like its journalistic equivalent of embedded reporting, assumes that the ethnographer will research in collaboration and cooperation with members of the community of study while remaining explicit about their role as researcher. Embedded ethnography is also akin to collaborative (Lassiter, 2005) or engaged (Eriksen, 2005) ethnographic practice – approaches that respond to Marcus' suggestion that contemporary ethnographic practice focus on 'doing' in collaboration with, not as observers of, subjects (Marcus, 2008, p. 7, referenced in Lewis & Russell, 2011).[17] Lewis and Russell explain that:

> "Embedded research allows the researcher to experience the 'worldview' of the organization, its members and their partners … but also requires the researcher to assess that experience in the light of academic knowledge and give the resulting insights back to the organization critically and formatively (as with forms of action research or process evaluations) so that they can make operational use of those insights" (2011, p. 410).

By engaging in with the framework of embedded ethnography, my hope was to be able to generate findings that could be used in both my own analysis, and by the designing community of practice to construct a "common understanding" of the practice of cultural production (Siltanen, Willis, & Scobie, 2008, p. 56). This embedded approach to ethnography allowed me to occupy a liminal position conducive to access and the development of a sense of community

[17] Embedded ethnography differs from collaborative ethnography in many ways, including the manner in which research is disseminated. An embedded approach advocates for collaborative generation of findings in the field, whereas a collaborative ethnography extends that co-work into the dissemination and presentation of research findings (Lassiter, 2005).

(Czarniawska & Mazza, 2003), allowing the organization and the research process to shape one another and building from the affinity that I felt, and continue to feel, for the field of study (Tate, 2015).

Assuming an embedded standpoint as the researcher made it possible to engage in two other corrective tactics aimed at alleviating the challenges presented to the study of cultural producers in the studio setting: the mobilization of an insider-ethnographic standpoint (as discussed), and the use of observational and visual research methods generated by, and accepted by, designers as part of the research protocol. My hope in engaging in this collaborative work with the designers was that they could gain insight into their professional work, some new practices of reflection for their teams, and potentially some new research methods for use in future projects (this is also how I 'pitched' the study to the Senior Administration). In reality, the designers I worked with seemed more interested in learning about how the discourse of design thinking was manifesting in their work than in learning new research methodologies – as is made clear in their guiding contributions to both data collection and analysis.

3.5.2 Analyzing the Working Practices of the Guarded Elite

Assuming an insider position and trading upon my shared experience did not change the fact that as cultural producers, and as a community in possession of high levels of cultural and symbolic capital (Bourdieu 1984, p. 233), designers, quite simply, didn't need me around. In doing this work, I was researching with a community of individuals and organizations that can mobilize the same, if not more, cultural knowledge and resources than I can myself: the study of designers is, in this sense, a study of "guarded cultural elites" (Mears, 2013). As one art director describes in Yavuz's study of advertising agencies, "Creatives are experts on culture" (Yavuz & Bennett, 2006). Moreover, in this case, it is truly the designers who have positioned themselves

as experts on the practice of designing: of the limited number of studies of design practice published in the last 25 years, few have been written by non-designers or academics without a design background (Bennett, 2006; Crilly & Cardoso, 2017).

Neyland describes the difficulties this presents to the researcher in the context of organizational ethnography, noting that without the distancing effect of an "exotic other" lacking control over their own representation, the ethnographer is forced to confront the limitation of their own lack of cultural capital, access, and authority (Neyland 2008, p. 2). Access and participant observation can be a tenuous request to make of elites of any kind. As anthropologist Hugh Gusterson notes: "participant observation is a research technique that does not travel well up the social structure" (1997, p. 115), but, as Ortner adds, this is intimidating but possible. It simply required that I "get creative" (Ortner, Mayer, Banks, & Caldwell, 2009, p. 182); a prescription easier to dispense than to follow. Designers are what Ortner has called a "boundaried community" (2009, p. 180), one which limits access to researchers, maintains cultural power and representational control, and creates barriers by rarely allowing researchers to investigate or participate in their community of practice (Davis & Pickering, 2008).

Designers have continually defined themselves as members of a cultural elite using mystery, exclusivity and physical requirements of membership – one only has to briefly review the online footprint of both the Canadian and American professional associations for designers to see references to members-only art directors awards, creative directors clubs and industry exclusive events defined by membership as an insider of the design community (AIGA, 2017; GDC, 2016). This studio was no different: "if you don't like real, you won't like us" signs, "Creatives at work" indicators on doorways, working rooms coded with names which referenced the bar where the studio itself was dreamt up by the founders or the local grocery store, and

inside jokes written on the chalkboard at the in-studio bar worked to reinforce the us versus them coding of an industry reliant on validating and valuing an invisible labour form. As demonstrated in Ortner's account of the difficulties she faced in her study of Hollywood, the boundaried nature of a community of elite cultural producers presents issues of access for the researcher as the outsider. This is perhaps the reason that most of existing studies of design practice are conducted from within the industry, using heavily branded and controlled case studies of the researcher's studio setting as a generalized sample for the industry as a whole (Beirut, Hall & Pearlman, 2001; Glaser, 1973; Mau & Leonard, 2004; Wozencroft & Brody, 2001).

This power dynamic creates issues of precarity for the ethnographer: as Mears has noted in her ethnography of fashion industry elites, the ethnographer is always subject to expulsion by a community who did not need her research in the first place (Mears, 2013, p. 25). This feeling of interacting in unexpected ways and this fear of expulsion defined my own experience conducting field-work as well. Though I traded heavily on my own membership in the community of practice to gain access, the consistent jokes about surveillance, lab rats and hiding secrets from the teacher revealed the underlying discomfort that my membership in the community initially created. Throughout my ten months in the field, I secretly expected to be kicked out daily – a feeling that certainly reflected the precarity identified by Mears.

In fieldwork among cultural elites such as designers, the researcher's use of participant observation methods within an ethnographic approach is often limited for reasons of client confidentiality, proprietary information, or social dynamics. This too was the case in this study. For reasons of client confidentiality and the proprietary processes of the studio organization itself, all clients, participants, and projects described use pseudonyms, and, in some cases, I have developed composite descriptions with the help of designer participants. This study also faced

access barriers formed by the use of jargon, in-group codes and obfuscation – aspects of design work honed by cultural producers to justify their work in interactions with clients, to increase social cohesion, and to value and validate a precarious knowledge creation process (Murphy, 2015). These barriers were not surprising. In fact, they mimicked the ones erected in studios that I had worked in during my own design career. These barriers were also not surprising when viewed from my position as an ethnographer: the organization of the design studio follows the pattern of all bureaucracy by being based on secrecy, and by safeguarding organizational knowledge from outsiders of any kind (Rosen, 1991). However, these limitations did place the vital issue of my access in jeopardy as – despite my reflexive dual role – I occupied a precarious and limited space in the field which required me to be a "good sport," further complicating the politics of data collection and analysis (Smith, 2001).[18]

Doing research in a design organization required balance. On one hand, the guarded and elite nature of the cultural producers I worked with limited the already precarious access I possessed in my role as a researcher. On the other, my reflexive approach to how I collected and analyzed data, and my own peripheral (albeit dated) membership in the community of practice increased my access and gave me an ability to decode and interpret industry and intra-community jargon quickly and easily. By drawing on the pre-existing methodological interpretations and applications held by designers themselves, I was able to maximize the

[18] When examining any culture through the lens of ethnography, I understand that there will be issues of reflexivity, power and the politics of rhetoric that must be addressed. This forms an additional barrier to the use of ethnographic methods when studying cultural producers: the limitations and difficulties of the methodology itself. The field of ethnography has long struggled with issues of reflexivity within the power dynamic of ethnographer/ subject (Hatch, 1996, Law, 2004, Murphy & Dingwall, 2001). The situatedness of knowledge and the notion of the neutral observer has been problematized by Alcoff (1992) and Rosen (1991), forcing researchers to examine their own reflexive stance, and the contested notion that an objective stance is either required or possible. In addition, the production of an ethnographic study poses limitations to the researcher, many of which have been identified by Marcus and Fischer (1999) and Wolcott (1999). In particular, the problematic politics of rhetorical strategies used in 'making sense' of a cultural group or organizational community have been examined by Conquergood (1991) and Brettell (1996). Issues of reflexivity and rhetorical politics certainly formed an ongoing a limitation to this ethnographic study, and it is one I struggled with throughout field-work.

collaborative aims of my approach, and to use the observational and visual research methods generated by, and accepted by, designers as part of my research protocol. Within the studio space, pre-existing definitions of what counted as research practice, what and who should be participants in research methods, and what forms of analysis and findings were relevant and acceptable acted as a generative structure within which to conduct collaborative data analysis and collection, rather than as a challenge to traditional participant observation and interview methodologies. In the next chapter, I will present findings that describe the ways that design thinking discourse has changed design practice at the organizational level.

Chapter 4: Level One - The Studio Organization

The design studio is a space that is defined by the discourse of design thinking – an organization that uses this discourse as a boundary object to enable a conversion from the limitations of a production culture to the possibilities of an epistemic one. In this first data chapter, I discuss how the design studio is mobilizing the discourse of design thinking at an organizational level to adapt their internal practices to a new knowledge economy framework. In the first section, I highlight how StudioX has adopted the design thinking model as a boundary object (Star & Griesemer, 1989) to help translate design work between the worlds of creatives and clients. Using the example of the pitch meeting – usually, the first meeting held in the development of a long-term design project – I examine the ways in which client facing stages of the design work conducted by the team in StudioX make use of the design thinking discourse as a way to translate between different worlds. I then discuss how StudioX manifests this discourse through rhetorical and audit-based structures. Finally, I look closely at the briefing meeting as an example of how internal organizational processes contradict many of the organizational structures of StudioX. Thus, I demonstrate a crucial paradox in the doing of design thinking: it is a way to talk about design, but not a way to do it.

4.1 The Organizational Culture of StudioX

The discourse of design thinking is a useful tool for any design firm or consultancy interested in converting their organization from a production culture to an epistemic one. After all, the very model itself marries the terms of design and thinking neatly together in a unique product offering tailor-made for an organization such as StudioX. By employing the discourse of design thinking to translate creative work for clients, and to structure work processes at a studio

level, StudioX can distinguish the value of process over product, and reposition the studio as an epistemic culture: a knowledge production machine able to 'design' not only things, but thoughts and ideas too. Using the discourse of design thinking is, however, a fairly new framework for StudioX at the organizational level. Working documents provided by the administrative team indicate that the use of the term to structure and shape the practice of the design teams began only in 2012 (StudioX, 2017). StudioX initiated this change alongside a full rebranding of their client offerings, market proposition, online presence and working space (StudioX, 2017).

It is StudioX's changing organizational culture (which I define here using Schein's 1995 proposal of "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems") that provides the context for the ways in which design practitioners accomplish designing as a form of knowledge production, and the ways in which they adapt their daily practice to established and audited models of knowledge work. However, that is not all the organizational culture does: it also provides the structure of design practice, defines the way this structure is communicated to clients, and formalizes the way the structure is brought to life by the designing community of practice. By adopting specific models of design thinking as framing devices for client-directed work, StudioX actively spotlights the ways that design practice is spontaneous, joyful and creative, and draws a curtain over ways in which routines, occupational formulae and activities of work made up the daily labour of the design team.

4.1.1 The Organizational Structure of Studio X

StudioX is very large. It is also very busy. It is full of hustling designers, dashing from meeting to meeting with laptops open in front of them. It is full of Creative Directors wandering from desk to desk, commenting on the work developing on the computer screens. It is loud with chatting creative teams tossing basketballs back and forth across the wide-open space. And whenever a deadline is looming, it feels like a command centre with war rooms full of paper notes piling up on desks, scrawled sketches on the glass walls and printouts of final changes littering the work tables. But mostly, it feels like a place where ideas are being made collectively, in new ways, by a very special community of practice.

As with many design studios in North America, creative teams at StudioX work in an open plan office: in this case, the design team's home is a pod of arc-shaped desks nestled tightly in a star shape. Most of their space is taken up by the three monitors on each desk, which frame a forest of screens, each with the same screensaver of a black and white flip clock that tickes off the billable minutes. Among these pods, the design thinking discourse is made manifest. Meeting rooms called "war" rooms with screens, glass walls for brainstorming, and a large table to accommodate a team, demonstrate the group work and open access valued within the culture. Individual sound-proof telephone pods (some shaped like space-age British phone booths) that fit either a single creative or a pair of creatives and project managers for client calls are used to maintain the boundaries between what the client sees, and what the client is sold. Bars in the kitchen, popcorn machines in the open plan conference centre in the middle of the building, and a steady stream of food and drink at meetings and events create an affordance for iterative prototyping and continual knowledge creation and act to convert employee down-time into creative action. And the 1950's bar cart that roams the halls (pushed by a lowly intern from the

local design college) that came swooping into the first brainstorming meeting I observed acts as both social lubricant and proof of social hierarchies. I did not need to be an ethnographer to know that the fancier the drink you ordered, the higher up in the team hierarchy you must be.

Given the amount of collective and collaborative work happening within this socio-material network, I thought the sound of the studio would be chatter. But instead, it is the sound of keyboards, email notifications and soft whoosh of headphones coming on and off, the sound of the sliding doors in phone pods and hushed conversations desk side. The electronic remix of Miles Davis that plays over the sound system every day is often louder than the conversations held between pod mates – a distinction that I understood more once I saw the amount of intra-team discussions held virtually over SMS and HipChat with colleagues who might only be arm's length apart and neighbours sharing a desk edge.

Each of these organizational features shapes the way that designing is accomplished in the studio as they are transformed to mental structures: ways of thinking about what designing means, what is required to accomplish designing, and to what end the practice of designing is engaged. But more importantly, these organizational features act to reaffirm the narrative of creativity and spontaneity (Cross, 2001) celebrated in the design thinking discourse, obscuring the view of the mental technologies and affective forms of labour relied upon by design practitioners to work within the audit structures of the organization, and rendering invisible the cultural competencies required for membership within the community of practice.

The way that the StudioX leadership (including Creative Directors, and Senior Art Directors) introduces the client to the studio space also reifies this narrative of creativity and spontaneity. When walking a client through on an introductory tour, guides use the design thinking discourse to describe work-spaces ("This is our ideation lab", "Over here is our

prototyping studio") in ways that contradict how designers describe those same spaces ("No, that's just the table we use for meetings"). Guides on these tours – usually the Creative Director tasked with wooing a new client – also talk about the five-step design thinking model as a way to describe the work being done in the space:

> You'll see them working over here; they are ideating some new possibilities. We'll move into prototyping soon…creatives at work, don't scare them! Ha ha. (Creative Director, 2017).

How is design thinking made manifest in the work of designers at the studio organization level? If, as the Creative Director on the team at StudioX shared, "the design is the knowledge, full stop, and everything else is inside baseball", then examining the first stages through which a design comes to be can give us a way to talk about how these stages are shaped by the design thinking discourse. Studying the ways that designers initiate ideas– which at StudioX primarily includes the *client pitch meeting* (or "the pitch") and the internal *briefing meeting* (or "the brief") – is a way of seeing how creative practice is framed differently in different contexts. Both serve as micro-examples of the way that designing is framed by and practiced within this organizational culture. Using these moments in the journey of a design project to understand the way that design thinking is being mobilized as a lever to shift the studio from a production focused one to an epistemic one offers a way to comprehend how designers actively negotiate and challenge the construction of knowledge through designing.

4.2. The Design Thinking Discourse at Work in StudioX

4.2.1 The Pitch Meeting

The pitch meeting in a design studio is much like a pitch meeting anywhere: it is a rehearsed and highly choreographed cultural event whereby designers and creative directors gather together to perform 'creativity' for an audience of clients. It is usually the first of a series

of meetings which will culminate in the client signing the studio on as Agency of Record (AOR) for a contracted period. Like pitch meetings in the startup community, the StudioX pitch is not merely an opportunity to exchange information: it is a chance for the design organization to generate ideas in what is an inherently imagined space while translating their creative work through the boundary object of the design thinking discourse. Pitch meetings at StudioX are initiated by Account Managers, who negotiate the contact with new clients or who manage contact with existing client teams working on new projects. They are also attended by a surprising number of designers, creative directors, copywriters and strategists, though often only the Senior Creative Director and Senior Strategy team member will have the opportunity to speak.

For docket #3082, the team was pitching a new way to imagine partnership in the digital space. This meant they had to convince the client of two key things. First, that they could redesign 'partnership', and that the results of this would generate both a digital augmented and virtual reality experience and a new way of thinking for the client team. Secondly, that it would be worth the client's time and money – this had to be a profitable endeavour as measured against a suite of metrics. To do this, the StudioX engaged the language of design thinking.

Taking part in a pitch meeting at StudioX means getting a glimpse into what are, admittedly, some of the more interesting aspects of design culture. However, as one designer complained, "[clients] just want the performance, not the sweat" (Designer, 2017). Engaging clients in the process of making creative work, and "selling" the process is an essential part of the work of design teams in the studio. Engaging the client in this process means anything from entertaining the client at dinners and inviting them to award shows, to staging entire working sessions to display "the magic" at work. And magic it is: clients brought in to experience the

practice of being a designer (which happens, for the most part, at these pitch meetings) are treated to elaborate ideation games, prototyping maker sessions where they get to play in the photo studio or animation labs, and catered brainstorming sessions where there are no bad ideas – just client ones.

Attending a pitch meeting at StudioX means more than just having a team of industry leading experts to tackle some of a company's most challenging problems, it is also the chance to "be creative for a day" – to play in "the sandbox" with the geniuses and to be blessed with genius by association. "We spend more time dancing with the client than designing on some projects" (Creative Director, 2017) explained the creative director after one unusually long pitch meeting. Clients support this type of cultural exchange by sending their best and brightest – or at least those deserving of a reward of designer pixie dust – to the studio for this event, and pitch meetings are often attended by senior executives and product leads with schedules too busy for playtime in the real world.[19] These pitch meetings are particularly important, as they serve to make concrete the tenets of the studio space. The client shall have a point of view (until we find a way to work around it and convince them it was their idea). Creative work shall be fun and playful (until the real work begins). And above all, design thinking shall guide our way (but not our practice).

[19] This appetite for learning to act like a designer – with the intention of developing the ability to think like one – has also spawned a new field of executive education in design thinking. Major studios such as IDEO, continuum and Taylor now offer online courses where people can learn design thinking as it applies to leadership, office management, problem solving, and sales (IDEO, 2017; Continuum, 2017; Taylor, 2017).

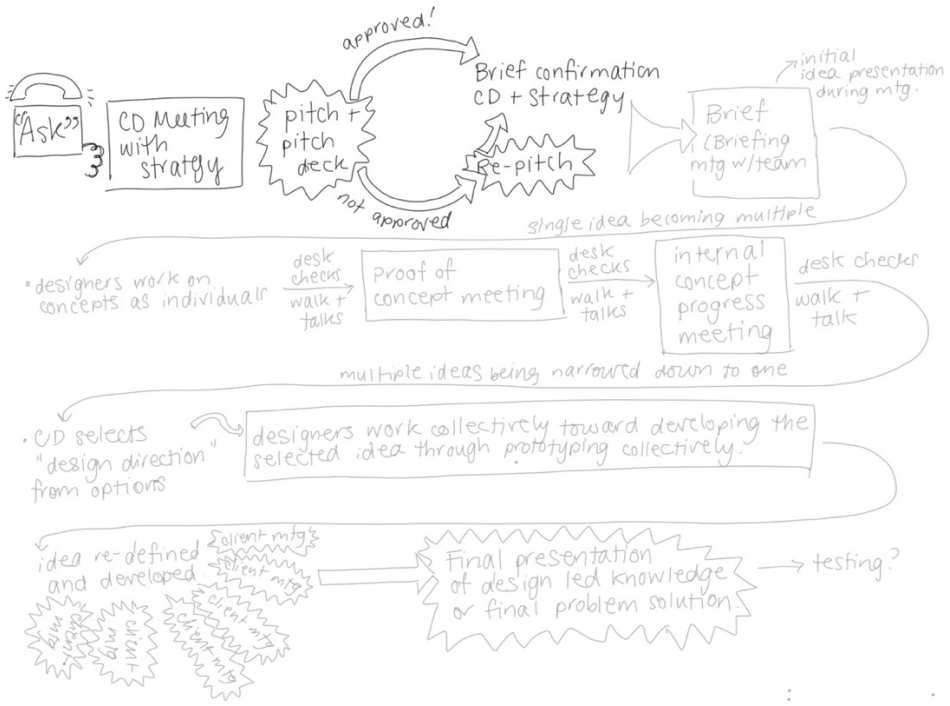

Figure 6. Map of Designing Process at StudioX.

The clients who join the StudioX design team for these pitch meetings come from a spectrum of locations and sizes of organizations, and from industries as varied as fashion, health care, tourism, telecommunications, digital wearables, events, automotive industries, professional athletics and cultural industries. As such, client representatives participate in a variety of ways – some attend the pitch just to share the "ask" or the challenge they need defined and solved. Some come with a need: a desire for change as yet unarticulated. And some come to re-engage existing projects that succeeded and now were to be spun off into something new. But what unites them is two things. First, "they have no idea what we do" (Junior Designer, 2017), as a junior creative exiting a meeting shared. Second, clients see participating in the pitch meeting as a chance to become a designer for a moment. "God, they *love* doing what we do" (Creative Director, 2017) one creative director exhaled after the first pitch meeting I attended. With the real work of a pitch tied up in valuing and validating what are often invisible forms of work for the client's benefit, it is not surprising that once the client leaves the room (or the conference call) after a pitch

meeting, the design team often heaves a collective sigh of relief. It is even less surprising that the house bar is the next gathering place to debrief: designers on the team charged with presenting and validating creative work for clients are doing two jobs, neither of them easy.

Job number one is pitching what are, necessarily, predictions. Creative ideas presented to the client in this initial phase take the form of the presentation of a pitch deck, or a guiding document that organizes and frames the work done by the design team in preparation for the next sizeable client-facing presentation meeting – the concept presentation. This working document is often delivered as a slide deck or PDF presentation. It synthesizes the "ask" (or core issue presented by the client in other communications), and the "charge" (or the highly ambiguous instruction to the team). But most importantly for the client, this pitch – though framed as a discussion of the structure and contents of the briefing document to be shared with the team – is in actuality a first concept presentation. Though the designers have not yet formally developed any creative prototypes, the pitch itself sets the seeds of the form that the design solution could or should take and frames the designing work to come. As a result, the weeks of initial rounds of work before the pitch takes place are highly speculative, reliant on multiple assumptions, and often composed of placeholder images, text and content that demonstrate the potential for a final idea rather than an example of a final product.[20]

In meetings such as the client pitch, the team (led by the creative director) is attempting to get an approval of a direction for their future work, without committing to what that future work will be. It is, of course, also a negotiation: the ritual of this pitch session requires visibly valuing the client's ideas, making concessions to their power by taking notes and indicating

[20] This mirrors Cash and Kreye's (2017) understanding of the role of complexity and uncertainty in design work, which they define as the key driver in the generation of three core actions of design practice: information actions, knowledge sharing actions, and representation actions – a theoretical perspective shared by Cagan et al. (2013) and Štorga, Andreasen, & Marjanović (2010).

where changes will happen in the document and remaining flexible to accommodate the additional information that will inevitably be offered by the client during the gathering. Gaining approval of what is, at times, entirely non-material "solution directions" from a client concerned with budget, internal audit practices and business metrics is a monumental task – it is no wonder that the house bar notches up another score after presentations like this.

Figure 7. Scotch Club: StudioX's In-House Bar

The second job designers must do in this context is to work to fit their knowledge production into a synthetic and imposed discursive structure that, as they shared, was "a necessary evil": design thinking. Accomplishing *designing* as a form of knowledge creation requires a series of heuristics and cultural competencies that are fascinating as evidence of a practice, but this is not what was of interest to the client in an age of *design thinking*.

During the pitch meeting, the design thinking framework is everywhere. "But which part of this is prototyping?" asked one client, looking through a completed slide deck near the end of a two-hour pitch. With the strategic and creative director sitting in the hot seat at the head of the table, and the rest of the design team arranged around the round conference table in wheeled chairs, it was clear as to who this question was for: as lead on the project, the creative director takes all responsibility and most of the credit for work done by the design team. He quickly stepped in, and deployed the familiar design thinking framework to comfort the client, describing the hours the design team would put into revising and reviewing different options or problem

definitions for each direction presented, indicating that prototyping (as well as the define, ideate and test phases of the most popular of the design thinking models) would play center stage in the creation of the "comps" (composite sketches or creative solution options developed by individual designers and brought for discussion and peer review during the meeting) that lay scattered on mounting boards across the table. This use of the design thinking discourse as a shorthand or framework for helping clients understand the automagical[21] practice of designing can indeed be a helpful tool for the design team to use when educating clients and add visible value to their work. During this particular meeting, the creative director even went so far as to draw the iconic model of five circles on the whiteboard wall for the client's edification and reassurance. After all, as a junior designer explained after that meeting, "they don't know what we do all day, so we have to show them somehow" (Junior Designer, 2017). Ideally, clients leave the meeting having felt heard, inspired, and most importantly reassured that designers would be applying the magic of design thinking to solve this problem – what could go wrong?

The way that designers describe how the organization structures their practice, through formalized events such as this pitch meeting also relies on the framing categories of design thinking, despite the lack of attention paid to those very categories during the 'doing' of the designing. When I prompt designers to describe what the pitch meeting means to them, they often ask me to clarify whether I want "the client version," or "the real thing." Both, of course, are telling. Both, of course, show me something about the practice itself. However, it is interesting to note the differences between the descriptions: for the most part, the "client version" is heavily reliant on the use of design thinking models and stages to describe the working practices that lead up to the presentation and delivery of design-led knowledge creation. The

[21] Automagical process, first identified in 1985 by Lawrence Peters, are those that occur both automatically and magically, disguising the labour and effort put into making them happen.

"client version" matches the pitch meetings that I observed and the organizational documentation that I collected. So, what is "the real thing?" As a senior copywriter supporting the design team explained:

> They don't know. They know what they want to see – that's us being creative. And these days, being creative means sticky tabs and then some ideation...whatever that looks like today. So, we might call it something else, but we're just helping them understand, and we're just finding a way to make it so they can observe it, so they'll pay for it. So they know isn't magic (Senior Copy Writer, 2017).

4.2.2 Materializing the Discourse Around Design Thinking Through Audit and Rhetorical Structures

As I spent more and more time in the field, and as the design team grew more comfortable with my presence and my participation in their daily work, the constant refrain of "don't worry, she's not the client" quieted, replaced for the most part with a simple "she knows what we're doing." Clients, as predicted by the creative director during that initial meeting, appeared to be less interested in the sweat than in the sticky tabs. And it is the framework of design thinking discourse that makes it possible for design practitioners to satisfy both the auditing requirements of the studio (in the form of billing and time sheets) and the cultural expectations of the client (in the form of a model which invites their participation in the fun). Perhaps most importantly, the use of this framework as a model to make the practice of designing evident and manifest for clients serves as a palatable explanation for how the practice itself was changing. Expecting a different kind of deliverable? But it's design thinking! Wondering why so many billable hours are being spent on concept generation? Design thinking. Curious as to what they were really doing in there? Design thinking? And most importantly, why was it so expensive? Design thinking! The pitch meeting made visible how this discourse was being used to pivot clients away from products and towards knowledge.

The promotion of design thinking as a market differentiator, and as the creative foundation for the work of designers, is a common theme throughout the organizational rhetoric produced by StudioX, including their printed and digital promotional materials. The use of design thinking practices to develop insight, and to apply those insights to solving complicated and wicked problems, was positioned as a market differentiator or a unique approach used by the studio in the creation of an experience, service, design or brand. StudioX's organizational documentation often appeals to their ability to "prototype, produce, test, deploy, operate, and optimize digital properties of all types and at scale" using "design thinking and design research" (StudioX, 2017) but does not provide a description of what their studio's service offering entails beyond the use of the model of design thinking itself. Rhetorical appeals to the value of "insight," "experience" and "real-life testing" (StudioX, 2017) indicate that design thinking methods form a component of their billable offerings, but these appeals are not tied to a precise definition of the methodologies employed.

The use of this framework to explain the mysterious yet valuable practice of designing, in a world where there might not even *be* a product at the end of the process, is also reflected in the organizational audit structures of StudioX. Billing timesheets (which track the tasks accomplished by designers using 15-minute intervals) use the same language of define, ideate, prototype and test heard so often in design thinking discourse (StudioX, 2017). Designers bill to these categories using a personal formula that considers which category might have budget remaining, what they remember of the work they did over the past week, and which category best matches their definition of what design work they do.

None of the organization's promotional materials reference formal research training or qualitative research credentials held by the design team: design thinking is framed as an inherent

ability or aptitude of the creative class, aided by the client-experience and professional history of the design practitioner and presented as a stand-in for formal methodological or organizational maneuvers. In sections of the website devoted to the role of the designer in the creative process, the organization defines their designers as "a team of curious, passionate researchers dedicated to understanding the experience of the user" (StudioX, 2017). The iterative phases of empathy, problem definition, ideation, prototyping and testing also define the client-facing pitch framework and the client-facing description of the design process. As Jones and Boxenbaum have argued, "language legitimates" (2017): the various vocabularies around design thinking and the specific terminology taken from popular design thinking models for use in client-facing work reveal the tangled threads of belief and practices that defined the studio culture.

Through the early days of the project that I observed, when designers arrived at the studio each morning at 8:30 covered in snow and complaining about the traffic, and through the seemingly endless rounds of client check-ins over the phone and in person, this paradox of the accepted definition of the culture of the studio, and the reality of the sensemaking practice of designers was made more and more evident. Lingering after a meeting in the Town Hall during a lunch break one day, three members of the team described the long list of words that are used to define their design work, none of which they felt fully described their practice. "It has changed, or we say that this new model has been an innovation in what we do" explained a Senior Designer working on docket #3082.

> We've introduced all sorts of disruption to how we talk about what we do. And now we call what we do disruption too. But it's the same damn thing, just different tools (Senior Designer, 2017)

How could this be? If the observable behaviour of design work has changed – and what was emerging from the data showed that it has – then has the practice not changed as well? Had

the implementation of design thinking discourse as both boundary object and lever at the studio level worked its way down, through audit practice and into the ways that designers understood their work? "I'll tell you one thing…it's sure not five easy steps" explained a senior designer over coffee. "And we don't use sticky tabs" chimed in a junior designer. "Ever ."[22]

4.2.3 Mobilizing Design Thinking Discourse as Boundary Object and Conversion Tool

At the organizational level, StudioX mobilizes design thinking discourse in two ways. First, it engages the language of the design thinking models (empathy, define, ideate, prototype and test) to describe both the work of designers and the structure of the organization itself. In this way, StudioX is mobilizing the design thinking discourse as a "boundary object" (as first proposed by Star and Griesemer in 1989) to communicate the structure of work processes to clients who are unaware of the labour of designers, but who are also tasked with evaluating design work. As a boundary object, the design thinking discourse is adaptable and can be managed within different social and rhetorical parameters, while maintaining a clear definition and framework. It is also increasingly identifiable to different communities – designers, clients, strategists and senior management alike are both compelled by, and confused by, what design thinking might be. However, most importantly, this boundary object works as a "means of translation," a way to let outsiders into the work of design teams.

Secondly, StudioX mobilizes the design thinking discourse as a tool for converting the premise of the organization itself: changing the emphasis from designing to thinking. By engaging the design thinking discourse as a structuring device in audit and rhetorical practice, StudioX repositions their market offering and converts their studio from a production culture to

[22] Designers in StudioX, and elsewhere, have publicly rejected the term Design Thinking, going so far as to call it "bullshit" in TED talks and public presentations given by leading international design firms such as Pentagram and Continuum (and causing great drama within the design community by doing so)(Jen, 2017).

an epistemic one. Without this mobilization of the design thinking discourse, the premise of asking a design firm to "reimagine what partnership could be" would be unimaginable – as would hiring an international firm on retainer without specifying a project deliverable. It is through the *use* of the design thinking discourse that StudioX can reposition itself as an epistemic, knowledge-intensive, culture.

4.3 Design Doing at StudioX

4.3.1 The Briefing meeting

The briefing meeting – an event which follows closely after the AOR designation has been awarded to the studio and the contracts with clients have been signed – is very, very different than the pitch meeting. The purpose of the briefing meeting is to present the design teams with the information they need to begin the design process. Traditionally, the briefing meeting is led by the Creative Director (with the Strategic Director standing in at times), with anyone with a pulse who might be working on the project in attendance. To miss the briefing meeting is to miss out on the work itself, for what happens in the briefing meeting is fundamental to how the team frames the project, how the project work is evaluated by the Creative Director, and how it is shared with the client. Briefing meetings are large events at StudioX, and the 'deck' (or presentation) is kept secret until the big reveal in the boardroom. However, though the briefing meeting is shaped by the information gained during the pitch meeting which precedes it, it directly contradicts the performative use of the design thinking discourse in the practices it supports.

Any project in StudioX progresses through a relatively consistent series of steps, at least in the beginning. Meetings are held with the client via telephone, video conference or in person in a boardroom at the studio (or at the client's office location should they be important enough),

at the client's request, to define and understand a need that they have. This is the "ask." The ask might be specific: a new product that requires a digital or experience-based component to the launch strategy. Alternatively, the ask might be vague: a need to increase engagement with a neglected or misunderstood aspect of the client's existing offering. Also, in some cases, the ask is highly ambiguous: a need to do *something* to change the future landscape in which the client operates, either to foster disruption, to create an affordance for change, or to set expectations for future engagements. No matter what, the creative director and the strategic team distill complexity and ambiguity of the situation through a series of internal meetings following the client pitch and *ask* is turned into *brief*: a charge document presented by the strategic team to the design practitioners at the second type of cultural event: the briefing meeting.

Figure 8. Sample Creative Brief Deck.

It is the briefing meeting (and not its close cousins: the desk-check, where the creative director monitors the progress of a design solution on a screen over the shoulder of a team member, or the walk-and-talk, where the social structure of the team is engaged to "partner" designers on ideas that are worked on while getting coffee, eating lunch or walking the halls of the larger studio) which acts as a portal into "how we really do it." No other cultural performance in the studio setting makes the differences between the ostensive and performative use of the design thinking discourse (used to sell clients on a direction) so visible. The briefing meeting serves an important function. It is during meetings like these, and like all other internal meetings held in

the conference and war rooms of StudioX, that design team members share the chance to reestablish the boundaries of their community of practice and engage in heedful interrelating (Weick & Roberts, 1993) while working together in tight sequence and partnership to brainstorm with their colleagues about solutions to a design problem. In essence, the briefing meeting was design doing at work. It was designing made visible again.

The briefing meeting that I observed for docket #3082 was as different as it could be from the pitch meeting just a few days before. No food! No suits! No sticky tabs, and certainly no graphic recorder. It took place one morning as the team gathered together for a two-hour meeting block. Once the "deck" (or the PowerPoint slide presentation of the brief) was pulled up on screen, the Creative Director was given the floor to "brief" the troops on the creative battle to come. The creative director briefed this project in one of the larger glass-walled war rooms, with the remnants of previous sketches for a health insurance provider and an international car client still taped to the wall. This location too was different from the pitch meeting: instead of the board-room with its view out over the design studio floor (or ideation labs as the client understood them) used for the client presentation; this space was a working one, booked for a meeting again immediately after our gathering. Another

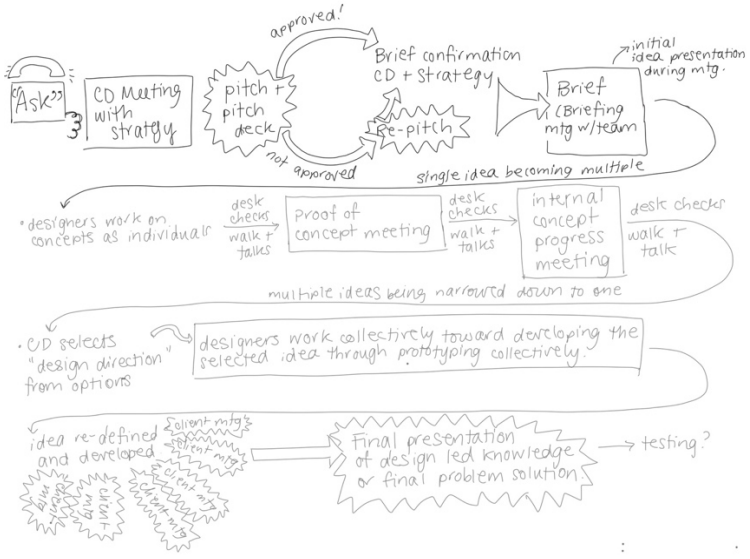

Figure 9. Map of Designing Process at StudioX: The Brief

point of contrast was the attendees: no suits. Instead, around the table were seven designers, three copywriters, three project managers, the creative director and the strategic director for the team. The meeting itself was moved five times to accommodate the scheduling demands of a growing team. Designers from across the studio were eager to join this unique and high-profile project and curious to find out just what this new kind of work might entail.

Docket #3082 was the first time StudioX had taken on a project of this scope, magnitude, and ambiguity in the knowledge creation space, and the mood was high. Laptops were, for once, mostly closed, and team members were fortified with coffee from the barista downstairs in giant paper mugs. As we crammed into the room on rolling chairs (and as I was introduced again as "not the client" as part of the speech given by team leads to remind the group of my role and their need to consent to have me in the room), the eagerness to jump into this much anticipated, high budget and long term project had the team telling stories about "death march" projects from the past and the glories of client battles fought before, trading experiential and situated knowledge in the form of war stories (Orr, 1996).[23] Finally, the strategic director and the creative director presented the deck and ran the team through a series of slides that outlined the ask, the charge and the evaluative metrics.

Due to confidentiality restrictions, there is not much I can say here about the brief for docket #3082. I can, however, describe it in general terms. The creative director presented the brief as a slide deck, with most slides featuring a single word (such as "change," "partnership," or "grow"). It opened with the title of the project itself (Operation Augmented Virtual Reality) and presented information about past client engagements, past successes in similar projects, and

[23] In his work on occupational communities, Orr identifies the use of situated and communal knowledge exchanged through storytelling and shared experience (rather than technical manuals or guides) within a community of technology workers (Orr, 1996).

existing client work. It then delivered the "insight": the unique point of view crafted by the senior creative leadership that captures the 'angle' or 'edge' that will make the StudioX efforts successful. [24] The brief presentation then broke down specific audience or user segments (with, at times, personas developed by marketing) and finished with the "ask" of the client in the form of a request. The wording of this request may or may not come out of the pitch meeting, but it served to summarize both the point of view of the client and the scope of the project. For docket #3082, the request was to "redesign what partnership looks like" using digital space – a broad "ask" indeed. Subsequent slides outline the budget, timeline, resources and prohibited areas for creative development.

But where were the parameters for the artifact of the deliverable product that they would be creating? My background as a designer had established my expectations for something that appeared to be missing in this new designing practice: where was the deliverable? What were they going to make? This might be new to me, but the lack of a deliverable in the brief did not seem to make any of the team members uncomfortable. Instead of discussing the type of artifact, the aesthetic choices at hand, or the execution options possible within the parameters provided, they started telling stories to each other about the experience that would take shape as a result of their designing practice.

As the briefing meeting went on, the Creative Director looked to designers for "first impressions." On command, designers generated ideas as if out of the blue, told stories, and hypothesized about what "partnership" could look like in a digital space. Though they appeared to be generating creative ideas spontaneously, each one looked back to the Creative Director for confirmation of their success, often executing a narrative pivot at a gesture or word that

[24] Other creative briefs for StudioX have included insights such as "The game is nothing without the fans. We give fans new ways to be die-hard, and new things to do. We develop innovation that unleashes your inner fanatic" (StudioX, 2017).

prompted a different direction. The work of spontaneous creativity in the briefing meeting is executed using established routines, heuristics and assumptions in ways that are in fact not spontaneous at all, but instead highly scripted and socially structured.

This example of the briefing meeting also makes visible what remains unsaid within this organizational culture. Research is never, ever, mentioned within the context of the briefing meeting – though many designers had scoured websites such as Cloroflot.com and Core77.com and research packs (or binders of information about the client, the established audience or user group, and the competitive market) provided by the strategic team for days in preparation for the meeting. Having done your homework is something you bury under your idea. Failure, though glorified in the "fail fast fail often" language of design thinking (Sivanandan, 2015) is never referenced. Also, as a junior designer shared while we waited for the meeting to finish, designers never ever talk about reusing ideas. Though it is common practice to "recycle" past creative work that clients have paid for (but which has ended up on the metaphorical cutting room floor) designers describe this shortcut using terms like "taking inspiration from" or "building off of..." to bypass design thinking steps and to meet organizational expectations. For the most part, designers speak in hushed tones about researching, afraid of being caught out as "grinders" who are not inspired at all. However, though having done your research is often unacknowledged, designers are also required to generate multiple creative, innovative and potentially award-winning ideas that fit the expectations of the briefing meeting and which take into account the unspoken research work conducted.

Though, when I asked them after the brief, each designer sitting at the table described the goals of a creative briefing slightly differently ("to get direction", "to get a focus", "to find out what the Creative Director wants") the community of practice clearly framed this meeting as an

opportunity to move out of the design thinking discourse used as a lever and a boundary object with clients, and into what they describe as design practice, or "design doing". I remembered what they had told the client that they were going to do, and how they were going to use design thinking to do it. The language used in the briefing meeting is different: no references to empathy, no defining the problem as a team, no testing of ideas with participants in an iterative fashion.

The mythology of designing as inspired acts of genius, made possible by a standardized series of design thinking steps, may be the foundation of how design-led knowledge creation work is valued and validated for clients at StudioX. However, as the briefing for docket #3082 made evident, the truth of the practice of 'design doing' is more nuanced. Designers appear to be prototyping ideas in this context, yes, but prototyping pre-formed ideas that are framed by and constrained by the expectations of the team and the audit practices of the organization. Instead of building a large collaborative problem definition to contain the possibilities engendered by the brief in an improvisational model as heralded by the design thinking discourse (Carlgren et al., 2016), designers are consistently checking back against the creative director for affirmation and confirmation of *pre-formed* ideas, often retracing their steps mid-story to reframe based on verbal or gestural feedback from the creative director or strategic director. Instead of being inspired by moments of genius with "eureka moments" or "lightbulb ideas" (Fast Company, 2013) designers refer back to similar projects completed successfully in the past and suggest ways of recycling successes in this context. This 'inspiration' extends beyond the use of past success to attract and retain clients: designers are in fact recycling cast-off ideas whole cloth as a way to work quickly and efficiently while maintaining the illusion of developing new and innovative solutions custom designed for each client group.

Observing the differences between how *clients engage* with the discourse around design thinking and how *designers do* the practices that it structures demonstrates how the straightforward structure of the briefing meeting – where a challenge is presented by the creative director, and designers brainstorm ideas to meet the challenge – hides a complex set of cultural rules, and masks the differences between the performance of design thinking and the practice of design led knowledge creation. What is presented to the client in the pitch meeting suggests the implementation of a model of creative work that could be used by all as a shortcut towards creative and joyful design practice. What is sold to the client is a process of design thinking that is accessible to all, creatives and non-creatives alike. But the work of using established routines, heuristics and assumptions to begin the process of predictive production in response to a brief appears to be highly scripted and socially structured. It looks nothing like that model drawn on the whiteboard wall. It certainly looks nothing like the model used for billing, auditing and framing this knowledge creation practice. It looked nothing like the playful association games that clients get to do or the improvisational warm-ups used in brainstorming meetings with client representatives. It looks like work.

4.3.2 Reported Practices of Design Doing

In order to explore the ways that the studio was mobilizing design thinking discourse, and the paradox this presented when contrasted against design practice (or "design doing" as the designers called it), the team and I took a design challenge of our own: re-imagining what a model of designing – the "real life" version, not the "client" one – *should* be. What initially resulted from this work was a description of what the "real work" of designing meant to the individual designers, rather than of how it was made manifest in the StudioX organizational culture. To illustrate this, the design team and I developed a model of "above the line" (or

popular, profitable work often highlighted when selling clients on design processes) and "below the line" (or the routine, mundane, process driven practices that accounted for the majority of the billed hours of a design team) categories of design work.[25] These distinctions of above/below the line were proposed by the design team and they reflect language used by the designers when discussing forms of design work. During a collaborative session held in the virtual reality studio between meetings one Friday afternoon, the designers and I worked together to construct the following model (which was illustrated on the wall by, of all people, a project manager). The question we were grappling with was a question in two parts. It was a question that was being asked more and more in the field about whether design thinking is even a thing at all (Jen, 2017; Helfand, 2016). But it was also a question of how the studio as an organization has adapted to this discourse – how StudioX was evolving to fit this thing that may not be a thing at all.

With feet up on the table and laptop screens toggling back and forth between HipChat, Facebook, Instagram and the Fast Company Design news feed, designers rapidly listed the tasks that fell "above the line" and "below the line" in their daily practice. Those that they placed above the line (including showing how to be creative, creating the final deliverable, copywriting, photography and creating multiple options for ideas) were all stages that had been actively realigned by the organization to fit within the design thinking models expected and valued by clients. Also, these tasks were highly performative and were performed for clients by senior team members (though they may have been initiated and accomplished by junior designers behind the

[25] Above and below the line traditionally reference the types of work made visible through accounting frameworks in print studios. Above the line (ATL) work was that which was directed at mass audiences – and which brought with it mass income as well for the design firm. Traditionally, above the line work was executed through mass media (television, radio and digital) though the distinctions between these two categories is problematized by digital screen work. Below the line (BTL) work was that directed at niche or specific audiences, often delivered through more one-to-one media such as handouts, hoarding, poster work or print promotional pieces. Below the line work was less profitable, but accounted for more of the overall activity of design work.

scenes). Below the line, like in many cases, was much different as one junior designer in the room described.

> It's like the ocean...seems nice on top all adventure and vacationy, and underneath it's a bunch of sea creatures doing their business (Junior Designer, 2017).

What this rough "above the line/below the line" model of design doing reveals is that designers describe their design doing, or their "real work" in ways that do not use the design thinking influenced language or structures put in place by the studio. Instead, they categorize the work that is billable, but invisible to clients (including the work of researching, imagining, comparing, thinking, recycling, critiquing and collaborating) as "design doing", and differentiated work that they highlighted for the client ("stuff we make a big deal about") from work that is critical to getting the job done but invisible to the client ("stuff we can't live without"). They outlined what was "above the line" and "below the line," sharing that "[the clients] don't want to see 100 hours of thinking on a bill…though 10 hours of prototyping, that's ok." We added billing and selling to our framework.

It is worth noting that the distinction between sellable and billable on the proposed model was highly contentious (at one point designers even kept score as to who had the better rationale for their distinction). Designers also proposed other models, including "showing vs doing," "designing vs design thinking" and "show vs. real" but in the end, amidst great debate, design practitioners agreed upon "sellable" and "billable" as the critical distinctions. These additional proposals also speak to the audit culture of StudioX for at no time did designers reference categorizations that would have applied to design work outside an institutionalized and client-based model.

In examining this data, I was immediately struck by the similarities of the categorization devices used: above the line and below, billing and selling, and design thinking and design doing

each mapped onto the list of "designing" practices in similar ways. [26] These categorization devices served to make visible the paradox designers negotiate between the studio's mobilization of the design thinking discourse as a boundary object for client translation, or conversion mechanism, in this transformation from production culture to epistemic culture, and the reality of what the designers call design doing.

Focusing on how designers work to intersect both the discourse of design thinking and the audit structure of the studio space within their work provides a vibrant picture of what they mean by the design doing (or, as they categorize them, "bill" processes) that lie below the line on their model of designing practice. The repeated references made by designers during our collaboration to "the way we do it around here" suggests that the discourse of design thinking is used not only as a methodological prescription but also as a cloaking device within the studio: a strategy that works to include professional expertise and client-work experience while resisting the visibility and value of these unstructured practice forms.

[26] Similar models of the "below the line" practices, or front stage and back stage framework introduced by Goffman (1959), have been examined by Ryan and Peterson (1982), Dornfeld (1998), Morean (1996), Murphy (2015), McRobie (1998) and Ettema (1982) in their studies of creative occupational communities. The language these earlier studies provides proved helpful as the designers and I grouped the above and below the line sub-practices into thematic categories.

This model of designing proposed by the team is indicative of the paradox within which they negotiate their daily work: the gap between the rhetorical and public performance of the studio's mobilization of the design thinking discourse and the realities of the mundane activities that come together to form the social practice of designing in the "real life" in their workplace. The design practitioners that I interviewed about this over a working lunch held at a table between the desk pods laughed at me. "You sound like the client," they said, complaining that I was over-complicating what was really very simple.

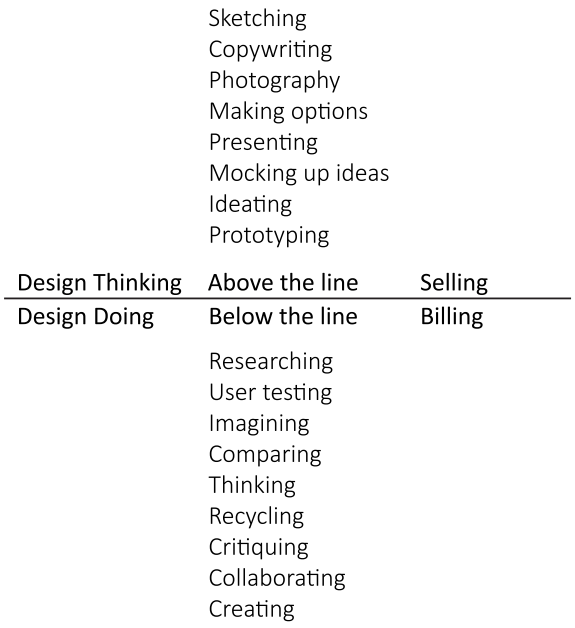

Figure 10. Above and Below the Line Model of Designing

> It's different, but it's the same in the end. You aren't using the same stuff, you aren't doing it the same way, but the needs are the same, your role is the same, your metrics are the same. You are still creating change for a client. Who really cares how in the end? As long as you made a change for them (Designer, 2017).

Design thinking, as a senior creative director explained, is not a tool for designing. It is a common language for talking about designing, or, as I understand it, a narrative framework within which to tell the story of knowledge creation to clients outside the community of practice. Without the use of a design thinking model, the sellable can't get sold, and the billable won't get paid. We left together after this conversation for our fourth meeting of the day, trading jokes about other forms of thinking and doing: science thinking, air breathing, water swimming, sport moving, cooking baking, without yet addressing the problematic aspects of this accepted and

normalized rift between required performances and social practices in the work they did as a community every day.

As the use of the design thinking discourse as a boundary object in the pitch meeting made clear, StudioX's organizational culture has embraced this discourse as both a means of translation for the client and as a tool for converting the organization from production to epistemic culture. This does not, of course, mean that the design thinking discourse is a useful tool for 'design doing.' The work of designing that I observed during my first days with the design team, and during my first days on docket #3082, may operate within the material structures of the studio, and within the audit and rhetorical structures built using design thinking discourse, but it is accomplished *without* the use of the boundary object of the design thinking model used to validate and value the work for clients. Formal processes of empathy, problem definition, ideation, prototyping and testing were used for billing purposes or for organizing the presentations for the client only. By focusing on the distinction between what designers do, and what StudioX tells the clients they do, this distinction between design thinking in performance and design doing in practice becomes clearer.

Though the use of the design thinking discourse as a boundary object is ubiquitous in the studio (from the website to the billing structure, to the graphics that decorate the "inspo" wall in the women's bathroom), true evangelists of the model are those who hold more power and privilege within the organization itself. Most of them work outside the creative team. And none of them are designers. What the designers who participated in the pitch, the brief, and in this last small exercise taught me was that when design work is seen as the automagic application of design thinking, we lose valuable insight into how the practice of design as a problem-solving methodology can be extracted and exported from the studio space and applied to 'wicked'

problems in diverse settings. But what the designers in the briefing meeting also made clear was that though the discourse around design thinking is engaged as a tool by designers to categorize and perform an invisible form of knowledge creation, to inform and shape the organizational rhetoric, and to function as a boundary object for clients seeking to practice "being a creative" during their engagement with StudioX, this does not mean that design thinking is a valuable method for the *practice* of designing.

This analysis, for the design practitioners at StudioX, felt simplistic. "No kidding" was the general response I got to this proposal, offered over shoulders as designers returned to work on their screens or sketchbooks. That, or its scatological equivalent. The structural changes or organizational affordances that StudioX had put in place – the use of design thinking discourse to leverage change into new offerings, the auditing practices, the billing structures – these were not responsible for shifting designing from a production practice to a knowledge practice.

This "local knowledge" (Geertz, 1983) of how designers accomplish the practice of design in the studio organization runs counter to the audit and rhetorical practices of StudioX, but it confirms the ways that design work is changing. When mapping the mobilization of the design thinking discourse at the studio level against the realities of daily practice, most of the designers describe their ways of "making do" within the system[27] – the equation of substitutions that they create to fit a new practice bundle into an old accounting hole. In the next chapter, I will examine this paradox of designing within a design thinking discourse further, and I will describe three moments of practice which highlight the ways that design teams develop "figured worlds" of what it means to be a designer in an increasingly epistemic culture of work.

[27] Orr (1996) adapts Levi-Strauss's idea of the bricoleur and bricolage to describe situated practices which "center on the interactive construction of an understanding and a basis for action in the context of the problematic situation. Such constructions are part of learning" (p. 12).

Chapter 5: Level Two - The Design Team

While organizational forces at StudioX have played a role in mobilizing the design thinking discourse as both a "boundary object" for use with clients to valorize and validate invisible forms of labour, and a tool to leverage a studio-wide change towards knowledge work, designers exist in a paradox of performing *design thinking* for clients and auditing practices while practicing *design doing* to get the job done. In this chapter, I move from looking at the studio level to the team level, focusing on the challenges that arise as teams attempt to reconcile the performative aspects of design thinking with the working knowledge they rely on as practitioners. I describe how design teams are adapting to the structures of the epistemic culture through the use of two routine practices: affinity sorting and lightboxing. I then highlight how three moments – representing an idea to the client, sharing an idea with the team, and organizing the sequencing of work – are indicative of the ways that this community of practice is adapting to the design thinking discourse by developing new figured worlds of what it means to be a designer in an increasingly epistemic culture of work.

5.1 The changing work of design teams

It was clear that the design thinking discourse used to structure the production, billing and auditing frameworks which shape the work's flow, and the use of rhetoric to structure the work's presentation, had introduced change to the performative aspect of design practice. But did the introduction of this discourse change the ostensive nature of the practice as well? It was clear that by adopting the language of design thinking to structure the studio organization, StudioX changed the studio itself into a knowledge production machine. This change from production culture to knowledge culture influences design teams: it immediately reframes them as

knowledge consultants rather than cultural producers and their team's work appears to be changing accordingly. It may be that it is the introduction of design thinking discourse made manifest in the organizational structure that can explain why it looks like designers are working differently than the rest of us.

Design teams used to be structured to reflect the stages of print production. Most maintained a clear distinction between creatives and non-creatives – between designers and copywriters, production staff (or "render monkeys"), and account management. However, in StudioX, as with many design studios repositioning themselves as knowledge-intensive organizations, those production-era professional distinctions are quickly becoming obsolete. The difference between the studio of the production era, and the one marked by design thinking creates complex issues of practice at the team level but also reveals a rich set of experiences to draw a better understanding of how individual designers as a community of practice are framing the effect of this discourse. In this design team, titles have not changed much over the course of this more extensive conversion. That said, every designer I asked had a story about a ridiculous job title from their past: each time I asked they told me about the DXDs (which I only later learned meant Different by Design), Experience Architects, Insight Modelers and Senior Understander roles that they and their colleagues had played elsewhere in the design world.

Today, being a designer on a team at StudioX means being both a producer of culture, *and* a producer of knowledge: in contrast to production-era cultures of the past, designers working in StudioX spend most of their time thinking, and the rest of it sharing their thoughts. In the face of increasingly complex and ambiguous understandings of the roles, products and social functions of their work, designers are practicing designing in new ways and incorporating new design practices shaped by the design thinking discourse into their daily work. Despite the

omnipresent language of the five-step model, it is clearly not just the discourse of design thinking that is intervening in their work, nor is it StudioX's changing client processes, audit practices or studio rhetoric. Instead, the way designers are accomplishing the practice of designing is changing in reaction to the increasingly epistemic culture of the studio space. This change was real, and evident to the designers too: "We've had to adapt. We've had to upgrade to a new way now that we deliver ideas, not images" (Designer, 2017).

5.2 The Use of Routines and Formulae in Team Work

The distinction between above line in design thinking and below the line in design doing established by the designers in collaborative work is an ideal place to start examining how designers adapt to design thinking discourse at the level of their community of practice. To explore the activities within the broader practice assemblage of designing that are rendered invisible or invaluable when design studios mobilize the discourse of design thinking to frame creative work, the designers and I made use of design-led research methods including customer journey mapping, sprint-sorting, A/B/A testing, and card sorting to understand better how it is that designers generate creative solutions to complex practical and social problems in a way that was different from the production culture processes of the past.

Designers in this community of practice consider the design thinking discourse to be helpful, to a point. The team values the cyclical framework of empathy generation, ideation, iterative practice, trial and error, and testing, and they are quick to reflect the discourse when describing their own team's practice:

> I mean this is totally how it works...there is a reason you call it design thinking you know? Doesn't have another name! Um, sure we do all this, this is all important to the whole design thing. And clients really need to know about it, because I guess this is the invisible stuff (Designer, 2017).

However, design thinking does not (contrary to StudioX rhetoric) hold the key to all their problems. Designers describe how design thinking fails to describe a critical aspect of their practice that had become increasingly important in the shift from product to knowledge production – that of compartmentalizing and categorizing client work into types of projects, using what Schutz (1972) refers to as "typifications" or "working knowledges" to understand what is correct, what is best, and how to make design doing more efficient, while staying on time and on budget.

> It covers it, but not all of it. Don't tell them, but we do a lot of work before we get into...I mean you have to know what will work now that we don't make printed stuff anymore. That's part of why we get paid...knowing what, you know, if it is going to work. Or where can I find that in here? We just do that part automatically I guess. Not fancy enough to be in the model I guess (Designer, 2017).

> Everyone thinks we are always reinventing. Changing things. Reinventing...but most of the time we already know what the end is going to be, just once you know you give me the brief. We can tell the weather from looking at that, then we know what works (Designer, 2017).

As teams work on design solutions that will take the form of both a digital engagement and a new form of knowledge or a way of seeing for the client, the continuous use of old files as grounding work for new projects, discarded composites and rejected client work from the past is astounding. Each day, design teams would reference a solution they had worked up in the past, which had been rejected, and which might solve today's issue nicely. Designers on the team were open about their use of both a physical and a mental library of formulaic responses to what was considered typical design problems.

> ...sure but it is a mental library, like a pantry, and you can reach in and get ingredients, you know? Things are different now here. Idea stuff, that means that once you have decided what kind of project it is, what you can pull that you already have, then you can work faster – you don't have any time to start with (Designer, 2017).

> I use some habitual stuff I guess, once I've decided what I'm...once it's clear what kind of thing we are doing, then most of it is just plug and play, that's a new step I guess (Designer, 2017).

This use of typifications or schemata in the development of professional knowledge ran counter to the studio's design thinking-based structure of empathy, definition, ideation, prototyping and testing. Here again, the difference between design thinking and design doing is made apparent: in describing the difference between the design thinking rhetoric and their "real life" process, most designers focused on the use of unspoken and unacknowledged routines and habits in creative concept generation. For example, one designer explained that

> Design thinking is just what we do. Doesn't mean it's always...well they look for the sexy stuff. But most of it is just having an eye, or having....the feel is what makes designers able to solve the problems. But you have to get the experience to get the feel, you have to know what kind of thing you are aiming for and how it has worked for other client stuff. No point working if it won't work (Designer, 2017).

The capacity to create new and innovative work as a team while using what Negus calls "occupational formulae" (1999; 2002) is considered essential in the studio. When making do in this quickly changing studio culture, design teams must develop high quality and easily shared ideas in collaboration with dispersed team members – some living across the country or in the United States – at a remarkably high speed. In this studio, designers are often developing comps (or composite images) in reaction to client changes every day, reviewing them with colleagues in digital space over-night, and presenting them to the client by the next morning. The speed of work in this case continues to be shocking to me – my own experience is with print studios with week-long "turnarounds" on client work. But relying on routines also means that designers have less appetite for creative risks.[28]

[28] This contradicts Baeck and Gremett's proposal that design thinking is the more creative and user-centered approach to problem-solving than traditional design methods, a method which "defies the obvious and instead embraces a more experimental approach" (2011, p. 17).

At StudioX, most team members work on a single main project, and with a single client. They often have "side projects" (framed as creative exercises) on the docket too: these might be new ideas being worked through by teams or individual designers for StudioX's use, or charitable work done as part of StudioX's commitment to initiatives in the community. That said, this focus on *one* client and *one* project makes it especially visible when a member of the team is working too slowly or is being too experimental. In a team status meeting one day, a senior designer explained:

> You can't really call this design thinking. It's just what you do...you are a designer. You just have this set of stuff, you remember what you've done, you use what you know. Like type choices. Or layout. Or just you know. You remember what you did before. You do that, because hopefully it worked! (Designer, 2017).

When reflecting on the use of formulaic or recycled design solutions, and typifications (or what Negus calls occupational formulae) in their work, designers repeatedly clarified that this was not a practice form that would "count" as part of design thinking. Instead, they suggested that

> ...you know what works. You've done this before. I just think about what I've dealt with before and see what this might be similar to. You know. Find its similarities...work from before gets you going (Designer, 2017).

It is complicated for a design team to balance the need for innovative and creative thought, and the deadlines and structures of daily work. One way that the design team at StudioX negotiates this is by using two specific categories of working knowledge, which they call *affinity sorting* and *lightboxing*.[29] When understood as parts of the larger practice complex of designing, these two categories account for many of the activities identified by designers as being part of design doing, or the real work of their community of practice.

[29] Both affinity sorting and lightboxing are emic terms, introduced by the designer participants on the StudioX teams. I will describe both in detail in the rest of this chapter.

Designers are often required by the team to re-use existing creative work for multiple clients, or to repurpose concepts in order to confirm the validity of design solutions as a way of negotiating the limited billable hours accorded to designer-led knowledge creation of any kind, and the attendant high value placed on the development of new ideas or new ways of thinking by the accounts team. This need to meet the billable hours and to minimize the invisible work is a key effect exerted on the design team: the organizational focus on design thinking discourse demands that design teams look not only "outside the box" (Kelley, 2013) but inside the box as well. Looking inside the box using the formative practice assemblages of lightboxing and affinity enables designers to work quickly, as a team, and on knowledge-intensive projects more akin to experiments than to productions. Perhaps most interestingly, the descriptions provided by designers of their use of affinity sorting and lightboxing methods in design practice focus on the how their negotiations of the studio structure and the studio's promotional rhetoric shape their design doing practice.

> It's not like you can always do it. Sometimes you just have to bill it and dig from something you've already done. We're usually able to come up with something in house that works, gets accounts off our back (Designer, 2017).

By describing one of their occupational formulae as "lightboxing," designers demonstrate how they rely not only on inspiration in the ideation phases of their work but also on expertise and membership in a community of practice within their larger knowledge production work. And when they describe "affinity sorting", or grouping potential projects within categories established by artifact-oriented client work of the past, they make visible the ways that this allows the designers on their team to work within a system of established types project outputs to meet the demands of the relentless studio schedule on time and within established budgetary parameters and limitations while adapting to the demand for ideas, rather than things. Though the structural,

rhetorical and audit changes made to the studio organization in response to design thinking discourse may render these design practices invisible, designers use these practice assemblages in the process of solving social, practical or theoretical problems.

5.2.1 Affinity Sorting

The first key practice assemblage, or routinized type of behaviour (Reckwitz, 2002), implemented as a way to bridge the gap between the discourse of design thinking and the practice of design doing is *affinity sorting*. As previously noted, designers assign a design problem to a category of solution *before* engaging with the process of ideation outlined in design thinking discourse – in essence employing what Ryan and Peterson call a "product image" (1982) to sidestep extra or unnecessary work in the design thinking process. In their work on cultural production in the music industry, Ryan and Peterson identify the "product image" as a shorthand that insiders share in the work of cultural production – a description of the type of solution or response warranted or required for different projects. In this case, the "product image" concept can be mobilized to understand how designers use affinity sorting to make predictive decisions about the end-result of their work before having accomplished many, if any, of the steps of design thinking. Much like the product images revealed in Ryan and Peterson's study of songwriters, designers faced with an assembly line of concurrent projects describe the use of categories (or affinity sorting) to understand better what kind of problem they face and to create a short circuit within the initial phases of their process. The assemblage of practice elements that make up what they called "affinity sorting" in their daily work is understood as a valuable and even foundational aspect of the larger practice of designing: in an epistemic culture where the problem parameters are unclear, the practice assemblage of affinity sorting allows designers to work quickly, to move through iterations of prototypes efficiently, and to remain

focused on the production of ideas while mobilizing their expert knowledge about "what works." The table below outlines the characteristics of the practice elements (or materials, competencies and conventions) that are assembled to make the social practice of "affinity sorting" possible.

Table 2: Adapting as a Team to New Figured Worlds Through Affinity Sorting

Practice Assemblage	Affinity Sorting
Materials (Stuff: objects, tools, infrastructures)	Room for gathering together, meeting scheduler, images, type selections, screens, printouts, image libraries, stock images, sketches, notebooks, laptops
Competence (Skills: knowledge and embodied skills and meanings)	Knowledge of previous projects, ability to work quickly with a team, understanding of client expectations and previous work, ability to look outside and inside the box at the same time, ability to compartmentalize and categorize types of ideas without having to work them out.
Cultural conventions (Images: expectations and socially shared meanings)	Sorting ideas into categories with other ideas before you start lets you work quickly while staying creative.

Table 2: Practice Assemblage Outline: Affinity Sorting

5.2.2 Lightboxing

Design teams described a second practice assemblage when talking about the use of what I understand to be occupational formulae[30] as a way of adapting to the change in their work and their workplace: notably the application of what they called *lightboxing*. The term "lightboxing," in most professional design software, refers to the place in the program where designers store drafts, discards or work in progress. According to the design team I observed, they take this terminology from the photographer's lightbox, which served as a viewing mechanism for work in progress and as a repository for rejected but valuable ideas and images.

[30] Though the design teams did not use the term "occupational formulae" when describing their work, it does, nonetheless, serve to categorize the types of practice change to which they referred. In member checks conducted after data analysis, design team members were comfortable with this term (but noted that it felt slightly redundant to anyone familiar with design work).

Design teams describe having a library or stock of ideas "in the back pocket" from which they draw tested and approved solutions appropriate to the design problem at hand. Community of practice members describe this use of formulae as a shortcut: a way of refining their focus in knowledge production from the possible to the "adjacent possible" (Kauffman, 1995). The elements required to create this practice assemblage – or part of the larger practice itself – are outlined in the table below.

Table 3: Adapting as a Team to New Figured Worlds Through Lightboxing

Practice Assemblage	Lightboxing
Materials (Stuff: objects, tools, infrastructures)	Archives of previous work and files, rooms to work together, computers, presentation materials.
Competence (Skills: knowledge and embodied skills and meanings)	Ability to use repertoires as a tool to access collective expertise while working on ambiguous problem sets.
Cultural conventions (Images: expectations and socially shared meanings)	Drawing from work you've done in the past is a way to work quickly within an ambiguous and complex design challenge when you need to move to the adjacent possible.

Table 3: Practice Assemblage Outline: Lightboxing

Design teams understand the use of repertoires within design work to be a mark of expertise, in keeping with the way that other forms of working knowledge (including typifications, family resemblances and schemata) are understood as social constructions built on assumptions which serve to help professionals work in complex social environments. "Lightboxing", to use the design team's term, is described as an invisible layer of design knowing (a term itself defined by Štorga, Andreasen and Marjanović in 2010 as a form of design ontology), and is attributed to the development of professional experience ("you just get your 10,000 hours, and you have a library to work with") or a mark of a wide and deep professional portfolio ("...never met a good designer who didn't just know...you always think of what you've

done, what's worked"). Drawing upon a mental repertoire of ideas allows the design team to use their collective expertise to work in a new way while retaining their professional status in their epistemological culture – an essential aspect of design practice indeed.

Most notably, lightboxing is identified by this community of practice as a mark of belonging within the community of practice that defines designers as different from strategists and account executives in the studio space. Design teams describe lightboxing as a neutral practice, one which makes visible the realities of design work but which has no effect on the work itself. The proposed neutrality of this practice, however, does not mean the teams want to talk about it: the carefree way designers dismiss this practice assemblage may indicate discomfort with the use of formulae or routine in a professional practice that faces difficulties with the validation of creative work and designer skill sets in the first place.

As the design studio converts into an epistemic culture, design teams are faced with two challenges. First, they must adapt as a team to new forms of knowledge production – this means initiating durable change in their practice of design doing. Secondly, they must also bridge between the two worlds on a daily level, engaging strategies to work quickly, effectively and creatively in a high-paced and collaborative environment. Affinity sorting and lightboxing may be two new names for two old practices, but by naming them and identifying them as part of the larger practice assemblage of designing, this community of practice is drawing attention to how they negotiate this transition to an epistemic culture, and how they adapt structures developed during the production-era to the new work of knowledge production.

5.3 Adapting as a team to new forms of knowledge production

I will next describe three instances that make this change especially visible in the work designers do at the team level. Designers, including those teams at work on docket #3082 (with

the dual charge to reimagine what partnership could be, and to develop a digital initiative to make this visible), have to negotiate their daily work in the gap between the rhetoric of design thinking manifested by the studio's structural and auditing reliance on the five-step frameworks beloved by clients and strategic teams alike, and the set of practice assemblages that come together to become design doing. As a result, they are changing both their practice of design doing as a team, and what it means to be a designer, to match the increasingly epistemic culture of their work.

5.3.1 Moment 1: New ways of representing an idea

When you are creating knowledge, not a product, your work changes too. "I became a designer because I was good at art. But I wanted to make money" explained a Senior Designer early one morning as we prepared for an internal team meeting. In this simple statement, he demonstrated not only the ongoing identity conflict identified by Bourdieu as that which is negotiated by all cultural intermediaries – namely the conflict between their membership in the worlds of commerce, and the world of fine art – but also one of the core competencies, or skills that create an important part of the identity of members of this community of practice. "*...I was good at art.*" The ability to render complex ideas *visually*, and to work within specific aesthetic structures encoded during a beaux arts model design education is critical to the social practice of designing digital communications. Often, the equation of aesthetic judgement with "designing" competencies is made concrete through presentations of design ideas in visual form. Sitting down with the rest of the team, another Senior Designer complained:

> We used to have it all up on the wall, like a crit you know? You could see it all, and we could talk about what it looked like (Senior Designer, 2017).

In a production culture, the "proof of concept meeting" would have been a critical example of how designers use their skills and aesthetic knowledge to represent ideas. And at

first, it appears that this is how ideas would be represented at StudioX as well. At a proof of concept meeting held at the end of the first month of the docket #3082 process, the creative prototype was going be discussed by the design team, in preparation for presenting it (among other options) to the client.

However, as the designers gathered to discuss their proposed concepts for docket #3082, there were no boards, no printouts, no visual representations of design ideas. The lack of material representations of ideas should have prepared me for the Creative Director's kick off command of "Ok, *tell* me what you are thinking." Not *show* me what you are thinking? So tell they did. The eight designers gathered around the table each took the floor and told the *story* of how their design would come to life. They employed imagery from other sources to help distill the story itself, but the "design" that they were contributing to the process – their entry in the tournament of value (Appadurai, 1986) to see what would make it to the next stage of refinement for client approval – was entirely created as a story to be told, not a visual to be seen. By the end of the meeting, notes may have been made by the team on the glass walls, but the entire process of showing a concept had remained an oral narrative at its heart, and not a discussion structured by the "art" skills that designers hold dear.

For a researcher greedy to capture images and organizational artifacts to demonstrate how design teams were adapting to the changes in their studio, words just don't cut it. Could there have been something I had missed, a process where the designs were shared in digital space rather than at the meeting? Much was said online in this space: perhaps the real designs had passed me by in 1s and 0s. I asked a Junior Designer whether this was representative of how internal design decision meetings usually proceeded, hoping for a key to the trove of documentation I was sure existed.

> Yes, we just talk it out. It's an idea, not a thing. So you just have to be able to get it into someone else's head. I use so much more talking than I thought I would, but I'm just changing how I work (Junior Designer, 2017).

This vocalization of the design concept, this rendering of a visual through storytelling in order to make the concept 'sticky' or memorable, was new to me. However, it appeared to be something that happened throughout the design process I observed at StudioX. This replacement of the visual with the narrative introduces a different feeling: storytelling becomes the raw material for designing. And the outcome? For one, it affords the designers the ability to continue to progress into the ambiguity of the project, instead of being stalled or stopped on their creative process until the specific technical decisions that determine aesthetic possibilities were confirmed by the client or the creative leadership team.

As the rest of the team worked under headphones on their computers quietly later that same afternoon, the Creative Director and Senior Strategy Director met near a window to discuss "how we're going to talk about this." For nearly an hour, they sat in a patch of winter sun and debated, at times heatedly, the merits of each story presented that morning at the internal design decision meeting, focusing nearly entirely on "how to talk about it" rather than what the *it* of the design was. Though barely audible over the sounds of lunches being microwaved in the kitchen next door, their conversation highlights one of the challenges of adapting to an increasingly epistemic culture by substituting storytelling for visual representations of data.

> Senior Strategy Director (SSD): " But they aren't going to know what to give you. How will we know what is too big, what is too small?"
>
> Creative Director (CD): "It's a gut thing, it's always a gut thing. All we need to know is if this is <u>worthy</u> enough to put in front of them. Is the story what they find compelling, does it hold?"
>
> SSD: "I'm griping about this because I don't have a criteria for eval. This has been my career for the last two f***ing years. You want a 30 second spot, I'll give you that. But

> give me an experience that shows a new way of thinking...what does that even mean?"
>
> CD: "You are missing it. We don't know what that is. We just have to work with a huge challenge, we talked about this two years ago. We are using this brainstorming session to see if we can develop a creative story, using this tech. I have my head around one that focuses on something, but I want the team to come up with other ones."
>
> SSD: "I think that I just don't trust it. It's not something we know what to do with. How do you sort out what's going to be a good idea, how things to put yourself behind? How do we figure out what's going to work? Just from a story? I just don't trust this brief."

From this exchange, and from the presentation of concept meeting that preceded it, it is clear that one of the original practice assemblages that formed designing – representing a design direction using visuals – has evolved. The shift in the organization from a production culture to an epistemic one has effectively intervened in the way designers accomplish the production of knowledge, allowing design teams to adapt to the new practice of storytelling to accomplish the established practice goals of representing a concept when the concept is just an idea. When the defining resource of the concrete deliverable is removed from the equation due to the nature of the project, and the team is tasked with designing ideas, not material artifacts, the practice assemblage of materials, competencies and conventions that forms "representing an idea" changes as well – perhaps for good. Later that afternoon in the kitchen, I turned to the same creative director and senior strategy director that I had been shadowing and asked them to help me unpack the difference between the "old" way of representing a concept, and this "new approach" in their work.

Table 4: Adapting as a Team to New Ways of Presenting an Idea

	Production Culture	Epistemic Culture
	◄——————————————————►	
	Old Practice	**Adapted Practice**
Practice Assemblage	Representing a design direction through visuals	Representing a design direction through storytelling
Materials (Stuff: objects, tools, infrastructures)	Room for gathering together, meeting scheduler, Images, type selections, screens, print outs, image libraries, stock images, sketches, notebooks, laptops	Laptops with word documents, room for gathering together, meeting scheduler
Competence (Skills: knowledge and embodied skills and meanings)	Visually depicting an abstract idea, evaluating the aesthetics of a proposal, narrating a visual.	Telling a story about an experience, evaluating the potential of an experience based on a story.
Cultural conventions (Images: expectations and socially shared meanings)	Designs can be evaluated based on their aesthetic values	Designs can be evaluated based on how a story makes you feel.

Table 4. Practice Assemblage Outline: New Ways of Presenting an Idea

They explained that substituting the practice of using visuals to represent an idea with the practice of using storytelling was not only a reaction to the intervention of ambiguous technical parameters in their design project but also a function of the increasingly epistemic culture of the organization. “We have to work fast around here; we don’t have a ton of billable time to get past this first stage of the ideas” explained the Creative Director. “We have to get a lot of stuff together quick. And then sort out what hits the cutting room floor.” By using the practice of storytelling as a way to represent ideas instead of the practice of representing designs visually, design teams can adapt to both the design thinking discourse and the increasingly knowledge-based production with which they are tasked.

The design team at StudioX still relies on the printed, hard copy, visual to gain client approvals for design prototypes. This reliance on some material manifestations of their work is certainly made evident by the ever-busy printing station in the centre of the large studio space. However, as a result of the evolution toward an epistemic culture where the designers are tasked with producing ideas, rather than things, they have adapted: actively substituting new practices of storytelling for the established practices of working with a physical or digital prototype in this stage of their design work. From a practice perspective, this substitution is key to durable practice change. Theorists such as Shove, Pantzar and Watson (2012) suggest that durable – or concrete – changes to practice are made possible in only three ways: substituting new practices for the old, recrafting two practices together in a new way, or changing how the formative practices within an assemblage are synchronized. In this case, design teams appeared to be using "substitution," whereby a more desirable practice is introduced to substitute for the old, while at all times fulfilling the same needs and wants as a less desirable practice (Shove, Pantzar, & Watson, 2012). By substituting storytelling for the presentation of visual "data" for internal feedback and approval stages, design teams fulfill the same requirements (achieving team, organizational and audit system approvals) *and* can do so within the framework of a client project aimed primarily at developing new knowledge rather than producing new designs.

5.3.2 Moment 2: New ways of Sharing an idea

Later that month, the design team debated over how to storyboard docket #3082 for the client while sitting under a giant double life-sized poster of Muhammad Ali with "the hand can't hit what they mind can't see" scrawled across the legend's torso. Perhaps ironically, given the iconic image behind them, their debate focused on how to assess and attack the issue of hitting what they could not see: how to present the invisible idea to the client. This is, usually, the most

activity focused element of the design process (Thornton, Ocasio, & Lounsbury, 2012): in an artifact production culture, once the team had completed the hard work of designing a solution, all that would have been left was to "mock it up" or print out the solution design and mount it on presentation boards for the client to review.

However, on this spring morning, with only days to go until the presentation of the design solution to the client, the design team was being forced to leave their educational and professional training behind. "It used to be just don't bleed on the boards if you cut yourself. And make the mounting straight" complained one Senior Designer. "Now we have to find a new way to show them an idea, not a thing." Ideas about how to show a problem solution (new forms of knowledge) rather than a produced artifact (or a "real thing") were thrown around, along with anecdotes about last night's NBA game and jokes about idea machines that could replace designers all together. Could it be a storyboard? But then they would lose the experience in favour of a narrative. Could it be a text deck with images shot from the perspective of the user? No, the client will get too hung up on how it looks. A poem? A podcast? Back to the robots and idea machines? Nothing worked for the team and frustration was mounting. Designers began drifting back to their workstations, away from the group still debating the issue, returning to their digital spaces where at least there the expectations had been set. Finally, only the Creative Director and Senior Designer were left to reimagine what this, the most basic of the elements of their idea presentation, should be. Suddenly, a Junior Designer looked up from her laptop and spoke up: "Can't you just act it out?" While debating how to showcase their idea prototype, the designers had been using language and verbal cues, but had also been acting out the idea using their bodies through gestures and blocking as if demonstrating the experience through

performance. Immediately, the team decided that *this* was the "new mockup": they would get the client into the room, and they would make *them* act it out!

Some designers registered discomfort, both with the deviation from their expected practice and with the idea of "acting out": this was far outside their comfort zone. Mine too, and I understood their apprehension. They were being asked to abandon not only their training, but also the final validating stage of the design process in favour of performing the idea, and as the rapid typing on HipChat suggested, this was not easy.

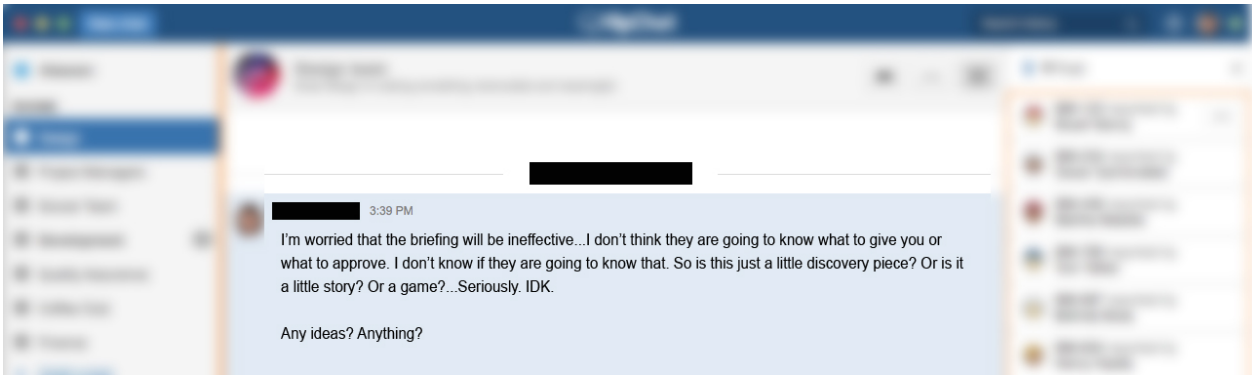

Figure 11. Hipchat conversation, screen capture (2017).

As the creative director's enthusiasm grew, the idea began to take shape. A performance it would be. A few days later, this new practice of "mocking up" an idea became a reality. The team welcomed clients into the boardroom where furniture had been cleared out to allow for their free movement. Two Junior Designers were tasked with narrating the experience for the client team, and the remaining group members took on the roles of actors in the proposed experience presentation. One unlucky copywriter was tasked with being a robot, and a senior designer assumed the mantle of "guide." Clients "walked through" the idea as fellow actors, improvising and imagining the experience of digital engagement, with no digital technology, to "feel" the design. And it worked!

After the meeting, as the team gathered their coats to leave the studio (for what was for some the first time in days), amazement and surprise with just how well this adaptive maneuver had worked were on everyone's faces. Bringing in participants to join the design process was, of course, not new (Simonsen et al., 2014). Neither was the use of performance in a business setting, as Nissley, Taylor and Houden (2004) note in their analysis of organizational theatre-based training initiatives. But adapting a production culture era practice of developing "comps" (or composite mockups of a final design) to include new conceptions of what designing should be, new material collaborators in the form of performance space over composition boards and new competencies in the form of embodied performance skills rather than visual presentation abilities was a risk. Integrating clients as participants into "the mess" through a practice that Rodgers and Yee call "informance" (2015) was even riskier. But now the team had successfully recrafted the practice in a new way, a recrafting which they accomplished within the newly epistemic culture within which they work.

In StudioX's lab, where teams generate ideas through designing and where "we don't know what on earth this is going to be but we know what the idea is" (Junior Designer, 2017), the design team is doing what practice theorists such as Shove, Patnzar and Watson have referred to as recrafting their practice: adjusting some, if not all, of the "socially shared tastes and meanings, knowledge and skills, materials and infrastructures" (2012, p. 8) required to accomplish the practice goals in order to evolve an existing practice form into a new adaptation. The absence of technological parameters for the design acts as an intervention – one which forces design teams to adjust not only their choice of approach but also their routines, conventions, affordances and restraints around how they share ideas with clients. When they are designing and creating knowledges, not products, how they show what it would *be* is different. In

this case, design teams are adapting an existing practice (presenting a design to a client) into something entirely new: replacing each aspect of the practice assemblage with a new component to accomplish the same effect more efficiently in a newly epistemic culture.

Over lunch the next day, the design team and I met in the virtual reality studio to build a customer journey map of both the old practice of presenting work to a client through a mockup and the new version of presenting work to a client through performance.[31] To do this, we used their existing billable time records as signposts to indicate where they spent most of their time on a project like docket #3082. As the customer journey map is a normalized research method used often by the design team to understand the practices of customers and users, tracing their own "journey" came easily to the designers and was a useful as a way to map, or describe, what the material, competencies, and conventions were that had to be assembled together in order to execute both the old and the "new" approaches to "sharing an idea". After mapping the journey of this practice form on a wall during a quiet afternoon and sorting the resulting notes into the proposed categories of materials, competencies and meanings, we generated the following comparative table.

[31] A customer journey map is a tool that designers use to understand how a user, or participant, experiences a design solution from the point of initial contact to the point of exit. These often take the form of visual renderings of a customer's experience, with specific points of contact isolated for analysis. Designers create these as charts (with positive to negative experience ranges graphed over time) or as an infographic (often in the form of a winding road with illustrated elements indicating moments of 'contact' the user may have). The research tool is borrowed from business management and has been adapted to focus on how the user experiences a design rather than how a customer engages with a product in the purchase cycle.

Table 5: Adapting as a Team to New Ways of Sharing an Idea

	Production Culture	**Epistemic Culture**
	◄——————————————————►	
	Old Practice	**Adapted Practice**
Practice Assemblage	Presenting a creative concept by "mocking up"	Presenting a creative concept by "acting out"
Materials (Stuff: objects, tools, infrastructures)	Mounting boards, printers, visual representation of the idea – digital or sketched, presentation deck, presentation walls in a boardroom	Open room, script
Competence (Skills: knowledge and embodied skills and meanings)	Mounting, cutting, gluing, storytelling, selling, negotiating	Acting, performing, guiding, storytelling, selling, negotiating
Cultural conventions (Images: expectations and socially shared meanings)	Pitching as a demonstration and a negotiation	Pitching as a performance and an experience

Table 5: Practice Assemblage Outline: New Ways of Sharing an Idea

Prior to the cultural shift towards knowledge creation in the organizational culture of StudioX, this practice of "sharing an idea" was constituted of the ability to create a two-dimensional rendering of an idea, the traditional screen-projected or printed paper copy of the two-dimensional rendering, and the agreed-upon understanding of how a mockup should be presented by the team and engaged with by the client in a meeting. However, in this epistemic culture, designers had to adapt. Gone are the two-dimensional renderings (or stuff) of the original practice assemblage. The ability (or skill) to render the 'production in that way? Vanished. And the cultural understanding of what it was to mock–up for client presentation? Replaced with a new image of mocking up as acting out.

Sorting the different "contact points" of the customer journey maps developed in collaboration with the design team identifies the ways in which each aspect of the "material, competencies and conventions" that make up the practice of sharing an idea have been adapted by the team from the original practice form in reaction to the intervening force of their new organizational culture. Design teams have found a new way to accomplish the goals of "sharing an idea" without forcing themselves to commit that idea to paper. "It's a shortcut" explained a Junior Designer the day after the "acting out" of the design:

> …it keeps them from getting hung up on the creative; it keeps us from getting stuck in making something invisible visible on paper for them just because we've always done it (Junior Designer, 2017).

By actively evolving each element of the existing practice form in reaction to a StudioX culture increasingly shaped by design thinking discourse and a focus on knowledge production, design teams also achieve a reduction in the cognitive barriers to successful practice accomplishment. From a practice perspective, designers were engaging in the second proposed way to achieve a durable practice change: "recrafting" or adjusting some, if not all, of the "socially shared tastes and meanings, knowledge and skills, materials and infrastructures" (Shove et al., 2016, p. 8) required to accomplish the practice goals in order to evolve an existing practice form into a new adaptation.

5.3.3 Moment 3: New orders and sequences to do things

"How we do things around here" is never a simple thing to explain. The explanation is even less clear when you are part of a highly reflexive, insulated, and precariously employed community of practice that creates work that is difficult to value and validate. Over the last phases of docket #3082, the team became more dispersed: creative directors and senior designers were spending more and more time in California, working with a partner studio to complete the

virtual reality portion of the experience, copywriters and project managers were away with the vocal actors refining lines, and the team often came together only for marathon phone conferences with the client where GoogleDocs were shared to itemize the hundreds of small changes that needed to be approved before the team could reach the next phase of production. Docket #3082 was resolving into its material and embodied form. The nights at the studio got later, the days at the studio got longer, and the team was in the final legs of the race! Not only were they eager to complete the project ("We say no problem, but you know, I haven't been home for a while, so good thing there is a gym here!") but the promise of awards that form the intra-community currency of the design world was gleaming in the distance. "We're going to get a Lion just for the [voice over] the way things are playing out! Is it too soon to start the reel?" (Designer, 2017).[32] "How we do things around here" was starting to crystallize: at this point, project responsibility was beginning to revert to the team hierarchy. As one strategic director told me, "Creative directors do the feelings, designers do the doings."

Team meetings at this stage change as well: rather than assembling the entire team physically in one war-room, a team meeting at this point of the project consists of a single project manager with five iPhones, a computer running face time, and a GoogleDoc. Gone are the brainstorming and presentation sessions that mark the first phases of problem-solving – the Junior Designer that I shadowed over one week had nothing but desk checks where the creative director looked over the shoulder to make comments or request for changes.

[32] Presenting work to the most prestigious advertising and design awards in the field – The Cannes Lions – required developing a "reel" or a film based highlight package that showcased the work, the process and the results. As the designers at StudioX were sitting on the bridge between digital work, experience and service design work with their ambiguous projects, sending in a reel to the Lions was both audacious and quite savvy: the work was recognized for its unique factors and the client was thrilled. Designers at StudioX who dreamt of the reel and how it would play at Cannes were packaging their work for the client and the awards community, but also for their larger community of practice.

> Can you make it, yeah? Bigger, but not. You know. More [hand gesture] without too much [hand gesture]. They want more (Creative Director, 2017).

This way of working – at a distance, virtually, and collaboratively – would have been surprising in a production-era design studio culture. However, in this epistemic one, being part of a team in the last phases of a project like this simply meant changing how the parameters of participation (both temporal and cultural) were understood. Unlike designers working in a production culture, designers at work in knowledge production are asked to jump in at different times, and in different roles in this new epistemic world. The shift in the organizational culture towards the design thinking discourse is made manifest not only in the ways that designing was achieved by the teams – through performance and storytelling – but also in the parameters of participation, both temporal and cultural. As my time in the studio with the design team on docket #3082 continued, and as the project itself progressed, I started to understand better the ways that the epistemic culture of the studio affected how the different practices that make up designing interlock.

With so many different roles and members within this (albeit small) community, reports about the order of how practices were sequenced and synchronized are often conflicting and highly personalized. Designers are required to maintain three different perspectives when describing the sequence of how work gets done: that of the client (who only cares about the above the line process), that of the organization (which speaks the language of billable hour categories) and that of the team or community of practice of which they are a part. This last, and most personal perspective is where it gets messy: here, the client and organizational versions fall apart. “We can’t just slam it in there, you almost have to make a loop” explained one Junior Designer.

> It isn't the usual order of things...not like it used to be. It used to be like a straight line. Now things overlap, and there are different orders because everything has to happen at a different time (Junior Designer, 2017).

These three perspectives were made especially visible in the oddest of the organizational artifacts that I had been using to guide me through the field. StudioX had developed a studio version of monopoly for a client promotional item the Christmas before, complete with inside references to studio culture, billing codes, and organizational structures. What better way to understand the synchronization of designing than using the codified "way we play" in the studio itself?

Using this playful "map" as our guide, and their customer journey map of design-doing, the team and I worked out the sequence of the practice of designing as it had been accomplished by the team working on docket #3082. What resulted from this exercise was a better understanding of the way their work had changed, while retaining the discursive residue of the production-era culture. The newly arranged and sequenced agents of the practice (or design team members engaged with accomplishing designing in this context) are identified in the figure below, which serves as a comparison to the working sequence identified in Figure 12.

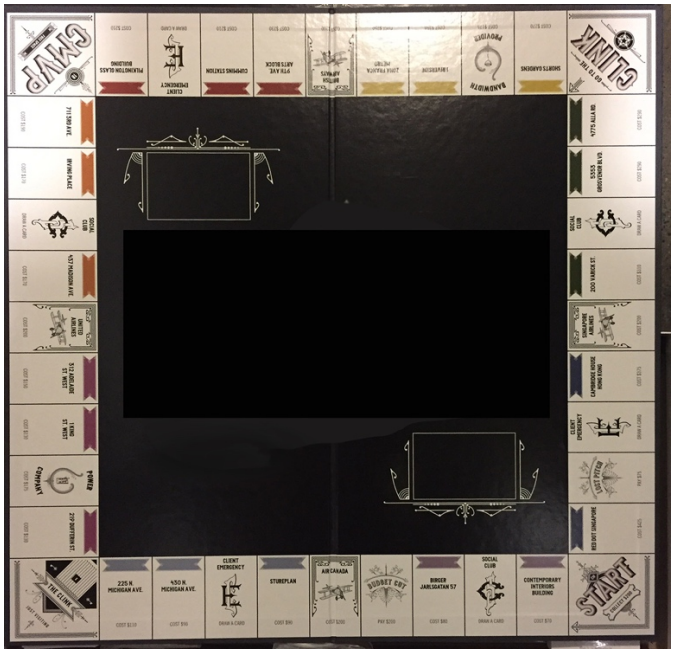

Figure 12. Monopoly Game created by StudioX (StudioX, 2017)

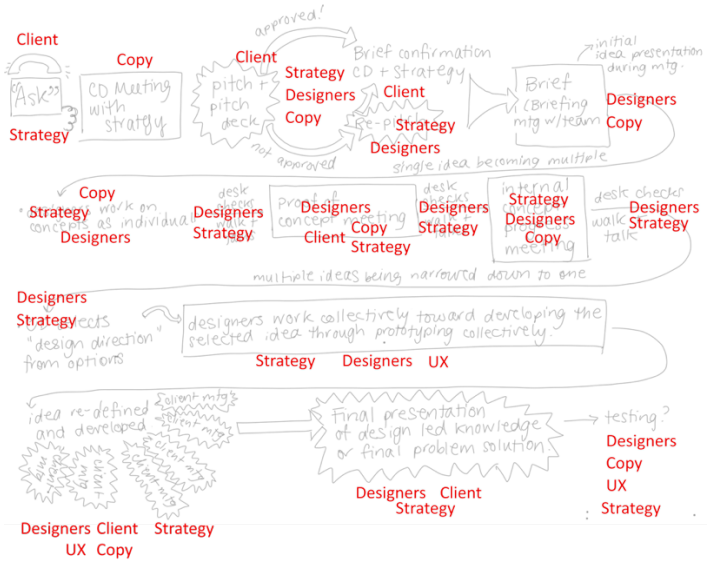

Figure 13. Map of Designing Process at StudioX: Participants

Where previously design teams were given a written brief by the account team and were expected to return three visual solutions for client approval; now the account team is part of the design process, and the designers work through the solutions before the formal briefing, and after client approval of a *story*. What the studio once framed as two different practices (copywriting and strategy) are now managed by one person or multiple community members. Where before design would be sent to "build" or programming, then returned for internal approval and changes, now designers are working alongside copywriters to shift and change their models, which are built only after client approval. How, with whom, and when, practice elements are accomplished is changing, disrupting the sequence of activities established within a production-based culture and resulting in a new interlocking series of practice, with rippling effects.

Table 6: Adapting as a Team to New Sequences and Synchronizations of Work

	Production Culture	Epistemic Culture
	◄——————————————————►	
	Old Practice	**Adapted Practice**
Practice Assemblage	Linear Sequence of work within a single project	Multiple sequences of work within a single project
Materials (Stuff: objects, tools, infrastructures)	Docket tracking system, computers, production facilities, contact reports	Laptops with access to a remote shared drive, phone conferencing system, remote workspaces, remote production facilities
Competence (Skills: knowledge and embodied skills and meanings)	Managing a portion of a project, documenting steps for the work completed, understanding docket flow projections	Collaboration, prediction, asynchronous work, ability to manage multiple overlapping versions of a project stage
Cultural conventions (Images: expectations and socially shared meanings)	Design is a production line where projects move from start to finish	Designs grow rhizomatically and involve designers and non-designers alike in their development.

Table 6: Practice Assemblage Outline: New Sequences and Synchronizations of work

One such ripple leads to conflict regarding ownership over the project, and questions about *who* is going to receive credit for the idea.

> In our world, everything is on the cutting room floor. We don't know what's real and what's not. What we know is what we get paid for...no one is on the bill for this call and that doesn't get un-noticed. They need to find a way to bill this out...I mean we are all, well we need to find a way to get paid for this shit (Creative Director, 2017).

Mapping this newly synchronized practice assemblage demonstrates the negotiable sequencing and synchronization of the practice assemblage of design doing and identifies how this larger assemblage is interrupted, extended, consolidated or re-ordered to evolve in the face of an epistemic organizational culture shaped by design thinking discourse. From a practice

perspective, design teams were engaging in the third proposed method of creating durable practice change: interlocking the existing material, competencies and conventions of designing in new ways, through new synchronizations and new sequences, to adjust to a more effective way of being in the world.

5.5 Changing Design Teams by Changing the Practices of Designing

In a studio culture shaped by the design thinking discourse, the work of the design team changes. Instead of working as a team to produce a designed artifact – a website, a brand, a software interface – design teams are adapting to work in ways that are more like knowledge workers in other knowledge-intensive organizations and other epistemic cultures (Sandberg, 2000). As MacGillvray explains, engaging in knowledge management work often requires practitioners to shift their ontological perspective, or their "ways of knowing and ways of working" (2009, p. 440). Like teams that work in other epistemic cultures, design teams face precisely this form of change: new synchronizations of how they organize their practice among a diverse and distanced group of co-practitioners, new substitutions of more effective practice forms for the old, and even recrafted practice forms that introduce a new element to existing practices. Design teams that understand their work as changing in reaction to the discourse of design thinking tend to emphasize the ways in which their work had changed, to deny the similarities of their current practices to production-era work, and to focus on practice forms that fit the performance of design thinking structured by the studio organization rather than on the daily use of routines in their work.

These changes indicate how the discourse of design thinking is made visible not only in the organizational structure of StudioX but also in the working practices of the teams therein. As a reaction to the intervention of the organizational culture – not its structure but its culture –

design teams introduce new practice assemblages in their work and find ways to engage routines of practice, occupational formulae and product images to work quickly and effectively despite the ambiguity present in their daily working lives. Examining the way that design teams use these routines of practice and occupational formulae (in the form of what they call lightboxing and affinity sorting) to adapt to the shifting studio culture and the challenge of work on knowledge production within the remnants of a production-era framework also shines a light on how they are adapting their daily work to the mobilized discourse of design thinking. Design teams use these typifications, or professional working knowledges, to cope with the challenges that arise as they attempt to reconcile the performative aspects of design thinking with the working knowledge they rely on as practitioners.

However, perhaps most importantly, these team-level adaptations to the introduction of the design thinking discourse at the studio level indicate a change in how designers are engaging the design thinking discourse in creating new "figured worlds" of what it means to be a designer at all. The teams are doing this by mobilizing reflective identity shaping, by engaging in both performative identity production and by experimenting and participating in activities that allow them to engage in conceptual and procedural identity production (Urrieta, 2007). By accommodating for their professional working knowledges (including the schemata, typifications and family resemblances they employ in decision making) *within* this new form of knowledge work, design teams thus reconcile both their professional position as a designer trained in aesthetic production (or designer-as-cultural-producer) with their new role as knowledge producer.

Design teams are bridging the gap between design thinking and design doing by mobilizing their production-era practices in new ways. And, with the use of substituted practices, recrafted practices and newly interlocked practices, they are able to not only connect the design thinking discourse prevalent in the performance of designing at the studio level with their own practice of design doing, but to expand their professional identity, or "figured world" of being a designer (Holland et al, 1998) through activity and improvisation. As Holland et al., originally outlined, the work of developing or adapting a figured world is both conceptual and procedural: it is both a conceptual (and internal) sensemaking process of determining "what they want to be," and a procedural practice or performance of that identity. The adaptations that design teams make at both the daily and project-wide level (such as the introduction of new or adapted practices in the representation of ideas, the sharing of ideas and the sequence of design work) contribute to the development of this new "figured world" of designer-as-knowledge-producer. In the next chapter, I examine the effect of heightened levels of ambiguity introduced in this figured world individual designers, and the changes to practice that they implement.

Chapter 6: Level Three – Design Practice

The discourse of design thinking impacts both the studio and the designing community of practice at the team level. Studios mobilize the discourse for two reasons: as boundary objects between their world and the client world, and as a way to reframe the studio as a knowledge-intensive organization. Design teams, or designing communities of practice within the studio, use the discourse to develop and transform both their team's practice and their figured worlds of what it means to be a designer in a newly epistemic culture. In this chapter, I focus on the transformation of practice to understand the ways that organizational phenomena are constantly changing through everyday action (Feldman & Pentland, 2011). I argue that the mobilization of design thinking discourse, the increasingly knowledge-intensive and therefore ambiguous nature of design work, and the changing figured world of the designer combine to create a change in how individual designers orient towards the ambiguity and the uncertainty that is characteristic of this newly epistemic culture. In particular, I examine the impact of increasing levels of ambiguity in the first two stages of the design thinking "model" adopted by StudioX: developing empathy and conducting research. Using interviews with individual designers, I demonstrate how it is in these stages of work that individual design practice is changed to cope with the ambiguity of epistemic and knowledge-intensive organizational spaces.

6.1 Embracing Ambiguity in Design Practice

By all accounts (and there were many accounts– of time sheets, of billing hours, of travel expenses and awards show entries), docket #3082 was a success for the design team, the studio organization, and the clients. Not only did it represent a first for the team in providing an idea-based problem solution (in the form of new ways of thinking about "partnership") alongside the

final augmented and virtual reality-based deliverable, but it was also a test of many of the new practices that now made up designing in this context of the epistemic organizational culture. The creative team had come together over ten months to develop an innovative and unique solution by adapting their design practice at both the organizational and the team levels. As a community of practice, they had adapted to the highly ambiguous context of docket #3082 – a project that the client initiated with no parameters for what the final deliverable would be, who the users were, or just what the client wanted as a result of the designed experience.

After the successful online client demo held on the last day of the project, it was time to celebrate. Deadlines had been met by the team, the client was eager to begin a new phase of the work, and the virtual reality experience created to manifest the knowledge produced through the process of designing was officially a success. Later in the afternoon, the Creative Director took the stage at the front of the large Town Hall meeting room to share lessons from the project and words of appreciation for the team.

> Today we did the thing that can only be done in VR. Not the thing that can also be done in VR. But what is most important is that we gave them an idea that showed them how we think differently…This can't happen without our culture, without the way we take on new perspectives, how we saw it through our user's eyes (Creative Director, 2017).

As the presentation of the project's progress stages and evaluative metrics rolled on the big screen, tired designers munched on popcorn. While they did so, the value placed on this orientation towards "thinking differently" was made especially visible in how the leadership team continued to talk about the generative role of ambiguity. "We couldn't know what was coming next, so we were ready for anything" they explained as progress slides rolled.

> We had to find our way through the dark…and there was no way to evaluate this so we had no limits. Helps that we stumbled on a solution because were looking everywhere at once (Designer, 2017).

The speech made at this meeting by the creative team leadership references the ways that design practice is defined in the studio by multiple knowledges or "ways of seeing" a problem – in effect, multiple "images" or meanings created *as a result* of the epistemic imperative to "think differently" present in the organizational culture. Thinking differently and finding ways to transform what *is* to what *could be* (Lindley, Sharma & Potts, 2014) is difficult to start with. However, when the project parameters, audience or user group and technological requirements become increasingly ambiguous, this becomes exponentially harder. "Thinking differently", in this case, requires a mental pivot: in order to accomplish this act of "thinking differently", designers must reframe ambiguity as fertile ground for critical stages of designing or design-led knowledge creation, a nurturing force which reorients them towards new perspectives or multiple images or meanings within the practice assemblage of designing. The reference made by the Creative Director to "new perspectives" and of seeing things "through our user's eyes" serves to contextualize research and empathy practices within an ambiguous problem framework, highlighting the unique ways designers work to adjust to their new epistemic reality. In the next section, I will paint a picture of how this focus on "new perspectives" and seeing things "through our user's eyes" was developed in the practice of individual designers.

6.1.1 Embracing Ambiguity in the Core Product of Knowledge

In his overview of the different ways organizations that are deemed "knowledge-intensive" hone their rhetorical strategies, Alvesson notes one common challenge: the high levels of ambiguity present in their core product of knowledge, their practice form, and in the "results of their work and its meaning" (1993, p. 1006). In design work, or knowledge creation work (Nonaka, & von Krough, 2009), continuous exposure to uncertainty complements this sense of ambiguity. Cash and Kreye have identified uncertainty as:

> a perceived lack of knowledge, by an individual, in the form of deficiencies in any stage or activity of the process that can be characterized as not definite, not known, or not reliable (2017, p. 3).

In the case of the design work done by individuals in this community of practice, these forms of ambiguity and complexity intersect: merging to create a catalyst for change in the core product of knowledge. This intersection is made especially evident in the brainstorming discussions held in the studio space, where design teams continually find themselves adjusting to changes in what one creative director called "the what" of design.

> The client always wants to know: what is it? What is the what? Sometimes these days, we can't tell them – we can just say how it is going to change things (Creative Director, 2017).

The experience of solving complex problems using rapidly evolving technological tools is standard across the field of design. At times though, the ambiguity that defines this knowledge work reaches beyond the tool-set and into the problem definition itself. For example, during one particular meeting at StudioX, the design team found themselves confronted with changes to what had previously been a stable element of their practice: just *what* counted as digital technology. In the past, they had worked on websites, apps, online service portals and software interfaces. Docket #3082, however, was new. Designers acknowledged that they were designing into "deep space" – producing creative solutions in what can only be understood as a predictive manner for an unknown future technological platform that they were "counting on being there to catch the design when it lands."

When working on an intensive long-term project described for "at least half of the whole time...that is a lot of weekends...totally blind", the heightened levels of complexity and ambiguity present in the parameters of this particular project were made especially visible. Designers constantly referred back to "The Ask" (as StudioX called their client's requests once

they had been articulated in the design brief), which was, simply, to develop a new way of thinking about partnering two major brands through a digital experience. Beyond the requirement to "find a way to experience the product," designers working on docket #3082 were not provided technological parameters for their proposed solution, nor were they working towards a final deliverable format. Most importantly, individual designers were tasked with telling the story of the product experience in a virtual setting without knowing which technological platform would house their ultimate designed experience. "It's like not knowing if you are going to be speaking English or playing charades" explained a senior creative team member, "or maybe you might be skydiving. Who can say." In one case, a critical client approval meeting was held with all members of the design team (and supporting project management staff) to present new creative solutions on the same day that the final model parameters arrived for the experiential digital platform itself. Designers had to "just jump like fleas from thing to thing since we didn't at all know how this was going to pan out" working on not only a speculative design but on a speculative technical platform.

As the wider community of StudioX account staff, strategy experts, and project managers gathered after the Town Hall meeting, and donned the VR headsets over on the creative side of the office space to experience the final result for themselves, the house bar was full of exhausted designers ready to talk about what "really" happened to make this project come to life. Over drinks, designers described how the affective impact of designing in an anticipatory or future-focused manner – effectively acting to predict a technological form, rather than predicating their choices on the affordances provided by an existing material system required an entirely new approach. One Junior Designer described it as the "choose your own adventure" version of the

traditional digital design practices their formal post-secondary education and professional apprenticeship had prepared them for:

> You never know how it is going to live out, so you have to work on the idea itself. I mean, we knew this was going to be an experience rather than just a site. We knew it had to live in public, not on a screen. But they don't know what the form is going to be in 6 months. Will we still have any of the VR we've got now? No point designing to, you know within the specs we've got – this baby isn't going to live there (Junior Designer, 2017).

As was made evident in my observations of the way design thinking discourse is enacted through the structure of the studio organization, and the way that it shapes the practice of both the studio as a whole, and the community of practice within, the act of designing for an anticipatory future of "stuff we haven't ever seen, let alone stuff we know how to draw in a sketch" requires adjustments to the established professional competencies of storyboarding or mocking-up a design (or prototype), the social competencies of presenting a creative concept (for both internal team members and clients) and even the technical competencies of digital rendering for a new virtual reality or augmented reality technology.

Designing to ambiguous project parameters context requires many late nights of labour for the design team: labour which is presented as a "welcome challenge" in phone and skype meetings with the client but which is described by individual designers as "just building bridges so that we could burn them down" by the designers themselves. Introducing ambiguity in the parameters of the project thus creates a change to the essential skill sets of designing practice, effectively evolving the practice assemblage of design doing toward a desirable end, but doing so at a high cost to the designers themselves who were required to deliver professional work with only apprentice level knowledge of the techniques or activities required for creation or delivery.

6.1.2 Embracing Ambiguity in the Result of Work and its Meaning.

Without a final technical platform requirement outlined in the brief, and with new expectations of what they are supposed to produce, design teams float in a world of predictive production, continually negotiating and changing their understanding of what the professional practice of designing entails. StudioX designers described learning to work in an entirely new manner in such an ambiguous context – relying on practices of storytelling and performance in place of the design practices which defined much of their other "regular, predictable, you know we want a website, and it has to work like this vanilla client" work. One afternoon, over coffee delivered from the studio's in-house barista, two designers working on docket #3082 described how their work activities contradicted the forms of design practice they anticipated when coming into the studio as juniors.

> Yeah, I barely do any 'design stuff'. I mean, I'm a designer, I create change in our world, I do that deliberately so I'm a designer. But I barely do any of what I learned to do in school, not when you are working with a client like this. I learned how to use programs and I learned how to design with type, but this kind of work is different: you still count as designer but you are more of a storyteller. Clients buy the story, and you make them believe in the design with the story. So you are a storyteller. But you, also are a designer, you are both (Designer, 2017).

> If you don't know where this is going to come to life, if those rules are changing all the time, you have to write the rules you know? You don't get to do a comp like you learned in school – instead you have to make it come to life for everyone. For the CD, for your team, for the client – god for the client – for the PM...you have to make them see what you see because you can't draw it any more you can't even sketch because you don't know what the thing is going to be. Maybe it's VR headset. Maybe it's VR glasses. Maybe it's VR with social, or even AR. Until then, you only have the concept. You only have the idea you know? Just the idea. Totally different way of doing this. But still, yeah, I'm still designing (Designer, 2017).

6.1.3 Embracing Ambiguity in Design Practice

Designers on the team at StudioX were especially eager to talk about how designers solved problems differently than "everyone else." The StudioX design team described their studio as an "incubator", a "nest", a "test lab" and a "simulator" for new ideas, many of which were described as being developed not in spite of, but as a result of, the ambiguity and complexity that defined the "ask" of the client and of the organizational culture itself.

> We just have to think differently. We have to solve problems in a different way. It's not design thinking like you see in the business stuff, it's just a way of seeing the blind spot, of thinking of something that is not connected but makes perfect sense. You can't do that with something you've done before. You have to try something new – you don't even know what you are going to get (Designer, 2017).

Alvesson has proposed that the use of "knowledge-intensive" to designate a superior or advanced organization is less about the use and production of knowledge by members, and more about the use of rhetorical strategies at an organizational level to cope with the ambiguity present in knowledge management and knowledge work. His suggestion that ambiguity, in this context, is a core challenge for "knowledge workers" is reflected in the work of the individual designers of StudioX. As Alvesson notes,

> Ambiguity calls for a well-articulated and persuasive language in order to convince outsiders - and perhaps also insiders - that the knowledge intensive forms of work (KIFOW) have something to offer worth paying (in many cases a lot of) money for and attributing authority to. (Alvesson, 1993, p. 1013)

This conception of ambiguity as a barrier, overcome with rhetorical strategies, is common in studies of knowledge-intensive organizations (Kärreman, 2008). However, the language used at the practice level to scaffold and support creative work in the complex setting of the studio suggests instead that designers do not *struggle* with ambiguity, but rather that they *embrace* it in their work. By describing their design practice using the language of "abductive

reasoning" or "the studio's way of thinking" (Dorst, 2011) in interviews and shadowing sessions, designers highlight and prioritize the value they find in the ambiguity present in their organizational culture. Some refuted the existence of a "real life" design model, suggesting that:

> ...how can we say there is a normal way of doing it when we are always working out in deep space? We never know what we are doing, that is what they pay us for (Designer, 2017).

By framing their role as one who conquers ambiguity, rather than one that is hampered by it, designers consciously change the focus of ambiguity in their work to be "not so much a pain, more like a prompt." Most commonly, designers engage with this description of their working practice to justify and rationalize the creative choices they make: invocation of the power of ambiguity and the role of "how we think around here" was far more common in client meetings, in formal creative proposal presentations, and when discussing finished work than in the initial stages of a creative project.

These steps within designing practice constitute important parts of designer-led knowledge creation:

> You are making choices all along. You are making choices in how you sell it, how you tell it, how you show it, how you make it. You have to use your skills, you have to think about your why. But it's not done until it's done, so you can think differently about it all along. Things change, it's tricky, you know? God knows we know (Creative Director, 2017).

As I sat alongside the designers working each day in this organizational culture marked by the ambiguity present in all knowledge-intensive organizations (Alvesson, 1993), their reluctance to categorize their work practices as methods, or systems was a familiar and understandable refrain. Repeatedly, they reinforced the use of ambiguity and complexity as a generative tool or vantage point from which to view a problem, rather than as cognitive

dissonance within an established or concrete working routine. The story designers tell about ambiguity – this vagueness around what was to be made by individual designers, and how – is that it is not a flaw, but rather an essential aspect of how they accomplish the practices that made their work unique. They are adapting to a newly epistemic culture by reorienting *towards* ambiguity – embracing the complexity and uncertainty it offers rather than attempting to reduce its effects.

6.2 Mobilizing Ambiguity Practice

The focus in the design thinking discourse on empathy and research is inescapable – each model popularized in both design studies and organizational studies features these two steps as the foundation of the creative work which follows. Buried within these stages of empathy and research are several fundamental assumptions that are contradicted by the practice of design in the studio setting. First, the focus in the discourse on both empathy development practices and evidence-based research is contradicted by the lack of time and resources allocated in project structures. Second, the ambiguity in both project definition and user definition precludes designers from working with participants either as research subjects or as sources of new and unique perspectives based on lived experience. And so, in this as in many other areas of practice, designers have adapted. Instead, of evidence-based research, they practice forecasting. And instead of empathy development work, they rely on their internal perspective to imagine the perspectives of potential users or participants. Both these practice adaptations have genuine consequences for the innovative nature of the creative process, for the development of unique problem solutions, and for the representation of users in the design. However, both adaptations are examples of how designers not only embrace but mobilize, ambiguity in the context of a studio setting framed by design thinking discourse.

Designers often present design practice to clients as a process with clear boundaries and stages: concept generation, testing, ideation and prototyping stages that are audited and accounted for at an hourly rate using design thinking milestones, and ideas or findings that are presented by the team at client-approval milestone meetings. These categories are rendered irrelevant from the perspective of a designer billing their time. "You don't want to know how the sausage gets made" explained one senior creative director. "We get there. It's just not a straight line." This process of designing within the epistemic organizational culture of StudioX, messy as it was, would not have been possible without adaptations to the practice of designing made possible by embracing ambiguity as a generative force.

6.2.1 Mobilizing Ambiguity in Practice: Doing Design Research

Mobilizing the ambiguous nature of their work allows designers to do what they call "looking back from the future," and to replace the research work outlined in the design thinking discourse and structured into organizational culture with the use of a bias towards forecasting in their idea generation toolkit.[33] Designers that I interviewed described their lack of training in formal research methods ("…god it is awkward. I mean what would we even be doing? Just stalking? But I guess it can work, no offense" (Designer, 2017)) sharing stories of frustration with the demands of the audit culture of the studio that adhered to a prescriptive model of research for problem definition and empathy development, but which presented few billable hours for untrained designers to conduct this research labour.

> We come up with ideas without leaving our chairs – we've got to use our imaginations, but you can call that research if you are billing it (Designer, 2017).

[33] After working with designers in a collaborative data sorting exercise, the design team generated the following two frameworks for what they understood to be the effect of embracing ambiguity in their work: 1) we can see things differently by looking back from the future, and 2) we can see things through our user's eyes by looking inward. Both of these framing devices impacted the perspective, practice and production of the design teams at StudioX, and these mindsets (Dweck, 2008) represented a way of understanding the structuring force of the organizational culture within which designing adapted and evolved.

The ways that designers mobilize the ambiguous nature of their knowledge work to create an affordance for the practice of forecasting is also reflected in the way that designers described their individual practice:

> We just jump off what is today – but we aren't designing for today, even if we do it today. So you can't only research today. But how can you, you know, research tomorrow? That's what we are good at (Designer, 2017).

Designers also described their use of preconceived structures and routines of practice (Ryan and Peterson, 1982) in both the creation of initial design solutions, and the conducting of what they determined to *count* as new ways of seeing things through their user's eyes: "I mean, it's not like they are from space. We already know about their world…we already know we are on the right track" (Designer, 2017).

As a result of the highly ambiguous definition of their task, design practitioners reject the imperative to focus on the existing requirements of today's world, and instead actively employ a bias towards forecasting as a collaborative prediction method to allow them to position themselves in a hypothetical future. This permits them to extend their methodological boundaries, creating an affordance for generating ideas that can be tested and reported on from that 'future' vantage point.

When they did "what I guess you can call ideation if you want" (Senior Designer, 2017), members of the design team working on docket #3082 operated almost exclusively in the space of the hypothetical and predictive future and worked collaboratively to generate ideas for "when this comes out" rather than actively constraining their ideas within the parameters of the present day. In response to the ambiguity generated in this knowledge-intensive space, forecasting is often presented as a positive feature of the process by the design team: "Who knows what this

space is going to be by the time we are done. I guess, well we know. That's our job right?" (Copywriter, 2017).

Using forecasting to "see things differently" – when repositioned in this epistemic culture and within this ambiguous context, was re-imagined by the designers as "remembering the future". The use of A/B testing, customer journey maps, focus groups and eyeball tracking may have worked in a production culture where the final deliverable was less ambiguous, but in this new world of knowledge production, the designers need more. The designer's epistemic toolkit is thus extended beyond traditional research methods to include the "generation" of ideas through what designers referred to as acts of "remembering the future."[34]

By embracing ambiguity as a tool to justify the replacement of evidence-based research with acts of forecasting, individual designers are essentially short-circuiting the design thinking cycle by creating an alternative practice that serves the needs of the discourse while managing the requirements of the production schedule. Based on what I observed at StudioX, the epistemic organizational culture of the design studio encourages a bias towards forecasting rather than looking at the present within all of the billable phases of the design practitioner's work and allows design practitioners to revise the boundaries of their practice to include acts forecasting as a part of design practice.[35] By encouraging and rewarding the use of a forecasting bias as a way of "making do" (de Certeau, 1984) in projects that demonstrated high levels of ambiguity (and low levels of actual parameters against which to build ideas) StudioX's embrace of the design thinking discourse has the side effect of encouraging designers to bypass the use of evidence-

[34] This ability to situated mentally in a "future" of one's imagining and look back to understand how it came to be described by designers could also be understood as counterfactual foresight (Hines, 2017): a practice understood by neuroscientists as one that increases the brain's ability to construct and reconstruct possible realities.
[35] By forecasting, I mean making predictions about the future based on past and present data. As used in the design studio, it references the act of prototyping future states through abductive reasoning practices.

based research all together in their work, enabling the teams to work in a speculative fashion that reflects the ambiguity of the problem they are tasked with solving.

As evidence of this use of forecasting to bridge between the design thinking discourse (which prioritizes new ways of thinking informed by research), and the reality of a design practice structured by limited amounts of billable time for research work, and limited client expectations of research use, design team members reported dedicating over half of their "billable" research time to what new-employee orientation materials described as "moonshot" thinking (StudioX, 2017). These included forecasting scenarios, proposing theoretical contexts and predicting abstract outcomes for their undefined design solution. Designers who were able to replace research labour with a bias towards forecasting in their designing practice were rewarded with larger, more complex, and more high-profile projects and were freed of the "wrist work" required of the "pixel pushers" in the lower ranks of the team. From this, it is clear that it is the gap between design thinking discourse and design practice that creates a social license for the allocation of working time to practices of forecasting as an essential part of the practice of generating ideas. The epistemic organizational culture at StudioX is therefore shaped by this adaptive reorientation towards ambiguity, while also acting as a future-focused lens that positions the social practice of designing within an adjusted narrative around what constitutes the labour of design.

Evidence of the affordance created by the organizational culture for this adaptation from research to forecasting also appears in the *stuff* of the organization: in the material space of the studio itself. By creating "research" studios out of whiteboards upon which designers were asked to transport themselves "into the yonder...defining for ourselves what might be, then reporting back" (Senior Designer, 2017), rather than spaces where data, transcripts, field notes or video

documentation of a definable present are reviewed or analyzed, StudioX rewards a bias for forecasting over data collection, and privileges the use of forecasting over evidence of the present in research work.

By mobilizing ambiguity to help them replace research with forecasting, design practitioners engage an important *ability* that appears as a critical trait of this community of practice: the ability to conjure or forecast a future state and to create the optimal conditions for that reality. Using the ambiguous nature of the project to justify the use of forecasting in the epistemic organizational culture of StudioX enables designers to include their abductive thinking resources[36] in their designing practice, to bypass the expense of scenario builds or physical prototyping, to incorporate performance into their ideation practice, and to iteratively model or test multiple scenarios for multiple constructed future vantage points without exceeding the allocated billable resources of time and materials. By mobilizing the design thinking discourse, StudioX creates an organizational culture that empowers designers to initiate a change in their understanding of what *could be* and to transport themselves to worlds that don't yet exist. This maneuver allows designers to take creative action and to make strategic decisions that affect those potential future worlds and to do so unencumbered by the expensive, time-consuming research of a production culture past. This formative practice assemblage effectively creates a space for the designers to better generate strategies that were considered unusual or divergent.

[36] Abductive thinking is a term used widely in the analysis of design work, and design practice. It references a reasoning process in which the premises of the logical argument do not guarantee the conclusion. Abductive reasoning begins with an incomplete information set, and provides the likeliest explanation or conclusion. An abductive conclusion is usually marked by incompleteness in either the explanation, or the evidence provided and is often described as "taking your best shot".

Table 7: Practice Change Made Possible by Ambiguity in Knowledge-Intensive Work

	Production Culture	Epistemic Culture
	◄——————————————————►	
	Old Practice	Adapted Practice
Practice Assemblage	**Evidence as Research**	**Forecasting as Research**
Materials (Stuff: objects, tools, infrastructures)	Computers, meeting rooms, data sources about today, magazines, internet, resource materials.	Computers, meeting rooms, collective work space.
Competence (Skills: knowledge and embodied skills and meanings)	The ability to synthesize large amounts of information quickly.	Bias towards conjecture and forecasting.
Cultural conventions (Images: expectations and socially shared meanings)	Good designs are based on a clear understanding of user needs and market context.	Good designs bridge what is, and what could be, by forecasting the needs of the future.

Table 7: Practice Assemblage Outline: Change Made Possible by Ambiguity in Knowledge-Intensive Work

6.2.2 Mobilizing Ambiguity in Practice: Developing Empathy

What is perhaps most surprising about the culture at StudioX is that no one leaves. At least, no one on the creative side. “It’s Hotel California in here,” one designer explained. “Why would you ever leave? You’ve got food here, you’ve got a bar here, you’ve got your people here...why go out?” It was this aspect of the organizational culture that design practitioners pointed out most often as both a symptom and a cause of a second practice adaptation generated by ambiguity: new ways of practicing empathy. Design thinking may demand empathy, but studio reality does not allow for any individual time with participants outside the studio space. Instead, designers adapt their practice of empathy to embrace “looking inward” to create multiple perspectives.

Through the material resources provided, the social structures that are constructed by the studio, and the activity forms that are rewarded in design work, the epistemic organizational culture of StudioX actively encourages the extension of the designing toolkit to include practices of intra-community introspection and self-reflexivity as a substitution for empathy. In addition, by generally increasing the ambiguous nature of the activities and parameters of the practice, and by limiting the amount of acceptable (or billable) time that designers can spend with external community members, the culture of the design studio grants designers a license to engage with a bias towards self-examination rather than engagement with external participants. Individual design practitioners from across the team structure often perform the role of the user for their colleagues, and for their own inspiration. The necessity of this type of performance is commonly attributed to the boundaries of time and budget that defined each project, the ambiguous nature of the challenge to start with, and to the repetitive nature of many design engagements:

> I mean come on. How many times, do I really, I mean how often do I have to test something I know will work? I can do that here, we're good at giving the gut check (Designer, 2017).

Of fundamental importance when discussing this second outcome of the increasing ambiguity in project form and user definition is the conception of empathy – how it is accessed as a research tool, and how it is represented in design work. Developing empathy is an established and qualified part of design work and has been since the beginnings of human and user-centered interaction design (Suchman, 2011). As Brown argues, the important role of empathy underpins the conception of designers as being "willing and able to interpret the perspectives of end users and the problems they face" (2009, p. 115).[37] However, maintaining

[37] The implication here is that the use of empathy within design is implicitly tied to the birth of the user – a movement that has been traced back to human computer interface (Norman & Draper, 1986), architectural (Alexander, 1975) and ergonomic design (Henry & Tilley, 2002) and which has, since the 1960s, positioned the image of the *user* as the center of design practice.

empathy practices in contemporary design work has become increasingly difficult with the increasing use of stereotyped or market and data-driven conceptions of the "user" of a product, service or communication. These marketing research or data driven conceptions of users are often unrelated to the needs and desires created by the practice (Warde, Cheng, Olsen, & Southerton, 2007) of which the designed product will soon become a part, and only hint at the realities of the user's experience. This is certainly the case in StudioX, where research about users is often conducted online, with what is called a "test" community of people who participate in focus groups for a living. This information about the user, though meant to generate empathy in the design process, is often delivered to design teams as a "research pack" of statistical figures: 52% of the moms liked green options, most users will be on social media between 8 pm and 12 pm, 17% of men ages 18 – 39 liked to see themselves represented in the design, and on and on.

Kimbell suggests a critique of empathy focused aspects of design practice frameworks, suggesting that though designers are positioned as interpreters of what end users need, and though they are tasked with the use of ethnographic methods to help them develop empathy with situated actions and perspectives of users, designers themselves are not trained to examine issues of reflexivity, their own theoretical and political commitments, or the ways in which these commitments and perspectives shape their research findings (Kimbell, 2011). The complex notions of whether the empathy development phases of the design thinking discourse are of benefit to the designer (and used as a tool to mitigate the subjectivity that designers bring to their work) or of benefit to the user (and used to incorporate their perspective into design work that affects their lives) are often overlooked in the practice of designing. However, as Kimbell

suggests, this complexity manifests itself in the ways that design thinking fails to reference more comprehensive theories of the social or to illuminate the context of the design intervention.

However, this established partnership with users is not what happens in practice as designers adapt to increasing levels of ambiguity in both the project parameters and the user definition. Instead, designers bypass the users altogether – recasting their self-reflexive process as user research and adopting multiple perspectives through intra-community and self-examination. All this without a user in sight. With increasing organizational demands for the generation of multiple perspectives or "multiple ways of seeing" as justification for abductive reasoning practices, designers practice "looking inward" to support a solution to a creative brief, not to guide their practice. This description of empathy, or embracing multiple perspectives as a mix of "real work" and "just digging around to justify it" challenges the role of empathy in the design thinking discourse. One Senior Designer, with 14 years' experience in the field of branding and graphic design stated

> We just do it, and sometimes we get to talk to real people before we do [design]. But mostly, we talk to the audience, or customer, or whoever, after we come up with our solution – you know. Just to check to see (Senior Designer, 2017).

Designers also describe the role-playing that is made possible by the ambiguous nature of their challenge, and the way that design team members use their subjectivity and self-reflexivity as data, alternatively

> …testing and retesting from their point of view… and then we can just use their point of view in the studio too. Because we know now – we wouldn't have known before we talked to them (Designer, 2017).

> I can go into …in their life they need someone who is a blank slate, who shows them what…what they need what they were really thinking. And then I carry that back with me into work, I can be them for a bit when I'm making, I'm deciding (Designer, 2017).

To justify their use of self-reflection as a form of empathy generation, designers also shift their description of the user: rejecting conceptions of the user as a customer or market, for whom an ideal fit can be found in the design solution (as framed by the organization), and instead imagining the user as a muse, invoked as participant in the design process (albeit an unacknowledged one) through intra-community and self-reflexivity. Users, both real and imagined, are described as "sources" or "fertile ground" for new ideas and credited with "showing us a whole new side" of how a design solution could be reached. High praise indeed for a figment of the imagination! High levels of ambiguity in projects like docket #3082 act as a permission slip for designers to lose the real person and instead to "look inward" for perspectives that validate their design direction. The descriptions of the generative function of self-reflection as a form of empathy in the design process extend to metaphors around "mining" and "extracting" truth values from inside the designer's mind for use at a later point in the project.

After all, if there are no hours available in the budget, and the designing community of practice can easily stand in for both the users and the clients, why wouldn't you replace the traditional approaches of user testing, participant and human-centered design user research practices with acts of what the design team called "looking inward"? A studio culture that allows for the use of self-reflection and reflexivity in both the generation of ideas and the testing of concepts bestows upon design practitioners several vital abilities. These include the ability to use their community of practice as a resource, the ability to actively use the self-reflective production of empathy as a generator of innovative and creative ideas, and the ability to work quickly and effectively using the material and human resources on hand to meet budget and timing parameters.

Docket #3082 was a unique project in that it was ambiguous in its parameters, *and* in its definition of "user." As one designer said, "We don't know yet who we have time to think about, we'll figure that out later. Proceed until apprehended, right?" Rather than being an impediment to progress or an intervention in practice, the ambiguous nature of the user in this case is seen as a catalyst for idea generation – allowing designers to forgo external informants as resources, and instead to rely on intra-community reflexivity and the members of their community of practice as participants in the process.

> We can test most things out ourselves. That is what we have to do – you get to think about who will be using this in the end and then put yourself in their shoes. I know lots of places have time for working with users – I know the whole IDEO thing – but we don't. So we have to ask each other, but it works, yes (Senior Designer, 2017).

> Sure, I guess I could get used to bringing in users. But most of the time, it's the client who is our user you know? I mean, yeah yes we think of the people who come into contact with the solution. But the person who we have to think of most is the client. What they sort of think. Good thing, well I do a good impression of the PM on their side. I can be him no problem! (Junior Designer, 2017).

By "looking inward" as a way to accomplish seeing things "through the users' eyes" (as described in the project wrap up meeting), the designers I interviewed challenge the formation and role of empathy in the design process. The ability to engage in idea generation defined by reflexive practice and intra-community introspection is valued by individual designers as a "third eye" into a different culture, and designers who develop a reputation within the community for being especially adept at this approach are praised publicly for their "insight" and "understanding" of user groups at studio-wide monthly meetings. In fact, over the course of docket #3082, the ability to "look inward" to generate *empathy* was added as a performance metric on yearly reviews conducted by all team leads. It also serves to validate and value personal experience over the observed experiences of outside participants in the design process.

This mobilization of ambiguity to justify reliance on the internal world of the designers creates a problematic model of empathy-based research. Contrary to traditionally framed research practice, designers who did have contact with users or participants did not use sketchbooks or other codified forms of field notes generating empathy in this way but instead treated the empathy stage of their work as a form of method acting. By immersing in a character that they could then summon at a later date, the designer was able to stand in as a proxy. In one interview, a designer shared that

> …you only have to talk to one grandma to know about how to think like a grandma. I mean, here, watch: I'm 88, I wish I was more socially engaged, I have limited mobility, I like tea. See? I can be the grandma now for everyone (Designer, 2017).

When prompted to examine this problematic maneuver in reference to how the team recorded their observations for later use, the same designer shared that "You don't record, you just learn to be them. Then you can use it" (Designer, 2017). By assuming the role of proxy audience member for future stages of design work, designers can accomplish the desired outcome of "Seeing things through our users' eyes" within limited billable hours while maximizing the generative value of ambiguity throughout the design project. This has clear implications for bias, involves a host of assumptions, and finally de-values the multiple perspectives required to generate real empathy at all. However, it emerges as a hybrid born of compromise in the daily practice of designers in the studio setting.

The use of the proxy (or surrogate) audience membership developed through self-reflexivity is a common trope in the development of conventional narratives – in fiction an audience proxy is permitted to advance a narrative both by asking the questions that the audience might have, and by serving as a mirror for the projections that the audience might feel (Zunshine, 2015). The development of the user's perspective through self-reflection, or "looking inward"

appears to serve the same dual role in both the generation and interpretation of findings for designers engaged in designing within the design thinking discourse, allowing the designer to access their own "library of life" as a research method, and for that research work to inform the library itself.[38] This use of a user's perspective is reflected in the practice assemblages compared in the table below:

Table 8: Practice Change Made Possible by Ambiguity in Knowledge-Intensive Work

	Production Culture	Epistemic Culture
	← →	
	Old Practice	Adapted Practice
Practice Assemblage	**User Testing and Consultation to Generate Empathy**	**Looking inward to Generate Empathy**
Materials (Stuff: objects, tools, infrastructures)	Computers, meeting rooms, focus groups, interview data, user A/B tests	Computers, meeting rooms, collective work space.
Competence (Skills: knowledge and embodied skills and meanings)	The ability to test user needs and reactions with qualitative and quantitative methods.	Self-reflexivity and intra-community introspection skills.
Cultural conventions (Images: expectations and socially shared meanings)	Designing requires understanding the needs of the user.	Designing requires embodying the user and using empathy to understand what they need.

Table 8: Practice Assemblage Outline: Change Made Possible by Ambiguity in Knowledge-Intensive Work

6.3 Responding to the Design Thinking Discourse in Practice: Reframing Ambiguity as a Generative Force.

Examining how designers embrace ambiguity to mythologize their work, and how they mobilize ambiguity to circumvent production-era demands on their time highlights the ways that designers negotiate both StudioX's mobilization of the design thinking discourse and the figured

[38] This active production of empathy through self or intra-community reflexivity has been identified by neuroscientists to be a key driver of innovative and creative idea generation (Hines, 2017).

world they have developed within this discursive framework – how they reoriented towards ambiguity in order to achieve the desired outcomes of seeing things in new ways and seeing through another's eyes. When asked more generally about the role and purpose of this reorientation of practice in their creative work, designers told me about the ways that taking on multiple perspectives or ways of seeing act to support the corroboration of brief details, the conditioning of client expectations, and the confirmation of a design solution's validity. Though empathy is, of course, a stage within the design thinking models adhered to by the studio, this does indicate a relatively shallow dive into the larger practice pool. One could argue for the value of the emic approach enacted by designers: by assuming the perspective of their community of study to the extent that they can embody it through empathic approaches, designers take on an extreme form of what Whitehead calls "emic validity" (Whitehead, 2005). However, the lack of investigations into behavioural context, and the privileging of behavioural acts over their linkages presents a stark contrast to epistemological assumptions that Higgs (2011) suggests are often shared in larger research communities focused on empathy as a knowledge creation maneuver.

By including acts of personal and collaborative reflexivity within the framework identified in the billable hours, the organizational culture of StudioX affords design practitioners the ability to draw upon the ambiguous parameters of the user as a new source of information. In effect, this allows them to rely upon their personal experience to *generate* an empathic understanding of the lives of others. Instead of requiring designers to engage personally with users to understand their experience in order to gain those highly valued "multiple ways of seeing," the epistemic organizational culture substitutes the use of a bias toward self-examination for this form of design-led knowledge creation work. By relying on this bias, the design

practitioners are able to access their own "... library of life" (as a Senior Creative Director described) as an effective shortcut to generate, test and iterate design solutions for complex and wicked problems. Without the organizational structures fostered by the culture of reflexivity to support this design led knowledge creation work (including the public recognition of individuals who exemplified this skill set and a social license for the position of the designer as a proxy member of the user group) designers would not have been able to extend their practice to reorient towards the very ambiguity that forces them to adapt and evolve the practice itself.

The ways that designers see things differently, and their ability to see through the eyes of the user, is a critical aspect of design practice. It is also a key factor in what makes the design thinking discourse so appealing to non-designers (including clients) interested in generating new, creative and innovative thought. However, the ways that designers mobilize ambiguity as a justification or short-circuit within the empathy development and research stages of the design thinking process standardized by the studio serves to illustrate how different design doing is from the performance of design thinking. Throughout collaborative field-work and member checks, design team members repeatedly referred to the ways their design practice was defined by the multiple knowledges or ways of seeing a problem created *as a result* of the high levels of complexity and ambiguity present in their work. Designers spoke of the ways that they had to look for "the adjacent possible" in their work (Kauffman, 1995), and how both design thinking models and design doing practices were predicated on a reorientation *toward* ambiguity, rather than solidifying practice forms in *reaction* to the same. To achieve these goals of multiple perspectives (and the assumed empathy that comes with it), designers reoriented their practice of designing toward the ambiguity that marked their epistemic culture – engaging it not as a flaw but as a feature in their work and using this ambiguity to change a reliance on evidence to a bias

toward forecasting, and to evolve their understanding of user testing or research to include practices of looking inward and self-reflection.

In this way, design practice both confirms and contradicts Alvesson's understanding of the function of ambiguity in knowledge-intensive work. Designers do rely on rhetorical strategies to mitigate the lack of definition they experience around their work and its meaning, the core product of knowledge, and the practice of design-led-knowledge creation. Their use of terms that are as ill-defined as "looking back from the future" and "looking inward" certainly provides evidence of the power of rhetoric to validate and value invisible work practices. However, designers are not framing ambiguity in their work as a challenge. Quite the opposite: they reference the ambiguous nature of their work as a generative function, as a tool for efficient practice, and as a method of evolving what it means to do design work in a design thinking system.

Framing the impact of ambiguity on their designing practice as encouraging forecasting rather than using research highlights a studio culture which rewards a design practitioner's reorientation towards ambiguity. Within this framework, design practitioners deny the academic researcher's focus on the present and current experience, adapting their research work to include acts of prediction, or prototyping the future. Moreover, framing their design led knowledge creation practice as looking inward reveals a studio culture which embeds and cultivates a design practitioner's bias towards examining their own lived experience rather than towards looking outwards. In this way, design practitioners frame designing as best done when embracing and reorienting the practice itself towards ambiguity as a way of taking the self as the primary subject.

This suggests that the lacunae formed by the contrast between espoused and lived practice in the studio may hide a new, and changed design practice. Designers are mobilizing ambiguity as a creative force to justify or generate abductive thinking practices, and to reinforce the narrative of empathy and problem definition presented by design thinking models, while developing the "new ways of thinking" and "new ways of seeing" attributed to their profession quickly, and within billable hours. As a result of the tension generated by ambiguity in project parameters and user definitions of docket #3082, a new hybrid practice is required – one which designers achieve by mobilizing ambiguity, taking a flaw and turning it into a feature.

Chapter 7: Conclusions

The first time I saw a designer at work was on TV, and it was like watching magic in action. Suddenly, the worlds of type and images, the beautiful arrangements of ideas and form that I saw in my world made sense: someone made that. I was hooked, and I went on to a career as a designer (and now a researcher studying the production of communication through design). Those outside the studio, including researchers interested in organizational work practices or cultural production studies, often see the social practice of designing through the tinted lenses of creativity and talent, a view that is coloured by a narrative of genius and artistic inspiration. Designers are often framed as *creatives*–doing a job encoded into their DNA, passionate idea hosts wandering through a sea of yellow sticky tabs and brainstorming boards playing around until inspiration strikes, and a design is born. This conception of the designer has extended into the development of an industry predicated on "thinking like a designer" with workshops and seminars focused on bringing out the creative genius inside us all, assuming that you can summon creative genius for a tuition fee of $399 (IDEO, 2017). Designers themselves are building this deep story (Russell Hochschild, 2016) of what it is to design as well: claiming to change the world, to be the lever which moves our culture and our society (Berman, 2008). This myth of the designer as an inspired genius is tempting. I am still tempted by it, enough so that I have worked as a designer for nearly two decades and made the understanding of how designers do design thinking the focus of both my professional and academic practice. However, much like the TV drama that introduced me to the work of designing, it is a manufactured reality.

As has been argued by Simonsen, Baerenholdt, Büscher & Scheuer (2010), designers have a unique ability to alchemize problems into solutions, ideas into communications, thoughts

into matter. More importantly, they are an example of a community that has *changed* their practice as a reaction to the discourse of design thinking, and as a way to adapt to a changing world. The communicative artifacts that they generate are fascinating as the residue of their, and our, times. But even more interesting is *how* they do what they do when they do what they do (or "how things work" in organizations as proposed by Watson in 2012). By examining how these particular professionals think in action, through the analysis of findings from field-work conducted in a design studio over ten months in 2016 and 2017, this dissertation examined the ways that designers work together as a community of practice to accomplish repetitive and audited activities within a cultural framework that renders the *doing* of design *thinking* relatively invisible. This ethnography of designing in the Canadian studio setting positioned the material and discursive practices of cultural producers such as digital designers as complex, often contradictory, sites of social reproduction and as potential sites of social transformation.

The design studio has been described as "the place where culture and commerce, anthropology and economics meet" (McCracken, 2008, p. 12) – a unique organizational setting where members of a specific group of "cultural intermediaries" (Bourdieu, 1984) share and enact practices of creation, invention and sensemaking. Within this space, a designer embodies practices, strategies and activities that are unique to their role as a producer of culture, and of communication. In this dissertation, I presented a challenge to the neutralization of complicated and complex systems of cultural production labour currently embedded in terms such as "design thinking" and "creative work", by asking what designers are *doing* when they work to create communication materials, and by proposing ways to better understand the role of their organizational context and cultural position in their daily practice. I argued for a new way of understanding how designers "make do" (de Certeau, 1984) within their day to day by telling the

story of how a project called docket #3082 – a massive high stakes augmented and virtual reality project that tested and extended a digital design team in new ways, forcing them to adapt and evolve their practice of *designing*. In doing so, I explored both the practice assemblages and the adaptive organizational maneuvers that are being introduced, reproduced, made durable and actively changed within this unique and exciting cultural space.

7.1 Summary of findings

In this dissertation, I attempted to offer a view into the effect of the discourse around design thinking on the linkages between the everyday practice of designing and the processes or structures of the studio organization. By first mapping the shape of the discourse around design thinking and its evolution both within and outside of the field of design, I situated the language which has come to stand in for 'designing' as a discourse involved in the construction of social practices of designing, including the competencies, conventions and material resources that constitute these practice assemblages. Understanding design as a social practice and seeing designers as cultural producers served to position this occupational community (and this community of practice) as knowledge producers, working within an epistemic culture.

7.1.1 Implications for studio organizations

By examining the practice of design doing and the shaping force of design thinking discourse from three different points of view (that of the design studio, the design team, and the practice of individual designers) I drew out instances of practice change – focusing on how designers do design thinking, and how the discourse around design thinking affected the linkages between everyday design practice and the organizational structures of StudioX. In my examination of the studio and the paradox of design thinking and design doing in everyday work, I proposed that design thinking is mobilized at an organizational level as both boundary object

and catalyst for change. This proposal of the dual role of the discourse was supported by an analysis of two specific cultural performances within the initial stages of docket #3082 (the pitch meeting, and the briefing meeting). At this macro level, the studio and the designers at work within mobilize design thinking in contradicting ways, and design work is changing in reaction to the conversion of the studio space from production culture to epistemic culture. I engaged collaborative data generation and analysis conducted with designers to reveal how designers negotiate both the paradox presented by design thinking and design doing through ways of "making do."

What do these findings mean for studio organizations? By understanding better the role of the design thinking discourse as a boundary object, and as a tool to aid in the conversion from production culture to knowledge culture, studios (or *design cultures* as indicated on the model below) can reposition their use of the model in daily work more effectively. Instead of addressing design thinking as just one of many service offerings, design studios could, instead, frame the studio itself as a knowledge-production machine. In addition, these findings enable those outside of the design studio to understand better the makeup and structure of *design culture* itself, and the affordances which generate a *designerly approach* which as I argue in the proposed model below, is an essential ingredient for implementing a design mindset (rather than merely a five-step design thinking model)

7.1.2 Implications for design teams

I then narrowed my focus and investigated the effect of the discourse around design thinking from the perspective of the designing community of practice to illustrate how the unique formative practices that they define as crucial components of the assemblage of "designing" enable their adaptation to new figured worlds of being a designer in this increasingly epistemic

organizational culture. Through the exploration of three moments when the team's practice underwent notable change during the work done on docket #3082 (specifically the introduction of new ways of presenting an idea, new ways of sharing an idea, and new orders and sequences of working practice), I identified the issues that face teams working within the design thinking discourse, and the impact of an adapted figured world on the social practice of designing at a team level.

What does this mean for design teams? Understanding how design teams change their practices, and how they introduce new practices in the studio space can help design teams speed up their process of adaptation to the increasingly epistemic culture of the studio. Instead of working to balance two opposing or competing ways of accomplishing design practice (or design doing)–that of the production culture and that of the epistemic or knowledge-intensive culture–design teams could instead deliberately change their practice by substituting new practices for the old, recrafting two practices together in a new way, or changing how the formative practices within an assemblage are synchronized. The findings I present here demonstrate how effectively that can be done at the team level.

In addition, those interested in applying design thinking to generate innovation and creativity repeatedly and reliably outside of the studio will be well served by this detailed description of what can be understood as a *designerly aptitude* within the work of *design doing* which, as I argue in the model of the design mindset below, is a second essential set of components for the development of a design mindset that can create a durable, concrete and new way of working for non-designers.

7.1.3 Implications for design practice

Finally, I discussed the practice of individual designers within this increasingly epistemic organizational culture. Here, I examined the surprising role of ambiguity within the daily work of individual members of this community of practice, and I argued that designers embrace ambiguity in their design practice, the core product of their knowledge, and the results of their work and its meaning. I identified the ways in which designers mobilized ambiguity as a tool for reorienting the conventional execution of the two initial steps of the design thinking model: doing design research and developing empathy. Finally, I analyzed the ways in which designers are responding to the design discourse in practice by reframing ambiguity as a generative force in their creative work.

What does this mean for individual designers? Drawing attention to how designers embrace ambiguity as not a flaw, but a feature of their work may help lessen the rhetorical negotiation required in daily studio practice. If, as these findings show, designers are using ambiguity and uncertainty to redesign how they think: to redesign the heuristics they use to generate empathy and the occupational formulae they use to do design research, then better understanding these new practice forms will help individual designers validate and value their work.

In addition, these findings indicate that designers are embracing ambiguity in empathy generation, in design research and other design practices not as rhetorical obfuscation (as proposed by others) but as a generative strategy. Understanding this better will allow those interested in developing what I am calling a design mindset, for without integrating this understanding of *designed-thinking* (or the *designerly attitude*) those interested in replicating the

way that creative cultures, including design workplaces, create new thought and new ideas will be unable to fully recreate the magic of the studio.

7.1.3 A new way of thinking about design thinking

Understanding how designers mobilize the discourse of design thinking in the studio allows us to envision a different discursive framework, one that takes into account the role of the organizational culture, the conventions and competencies of the occupational community, and the specific mindset of individual designers. I propose that, based on the findings from this research, we rethink how we think about design thinking. I offer to those interested in working towards generating creativity and innovation reliably and repeatedly – especially to those interested in fostering and nurturing creative critical practice in organizations and in the classroom – a model of a design mindset. This is not, to be sure, the substitution of one 'universal' model for another: neither the standardized process of design thinking, nor the design mindset model proposed below can stand in for a situated practice informed by context and by participants (Simonsen, Svabo, Malou Strandvad, Samson, Hertzum, & Hansen, 2014). Instead, the model I proposed below is one way of visualizing how the intersections of *design culture, design doing*, and *design thinking* that appear to define the studio as an epistemic organization are enhanced by the *designerly attitude, aptitude* and *approach* described in this study.

The findings from my research indicate that the design process should not be understood as the application of a sequential model of empathy, problem definition, iteration, prototyping, and testing – to do so is to risk missing the key roles of studio culture and routines of practice in the development of design work. Instead, what I propose here is one way of reimaging design thinking that may accommodate practices of design doing, and the culture of the design studio,

as well. This can be understood using the following visual, which itself poses limitations to how we understand the interconnectedness of these forces due to its two-dimensional representation:

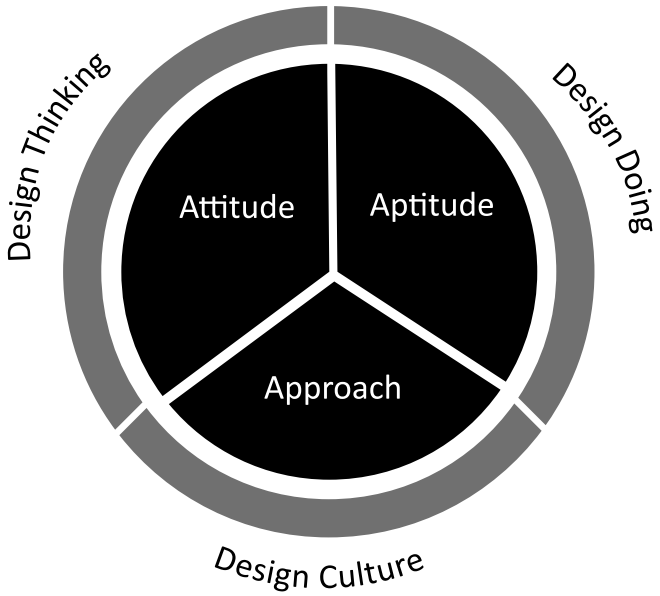

Figure 14. A proposed model of a holistic design mindset.

My intent for this research is contribute to the larger conversations happening in the fields of organizational studies about how we can encourage teams – including my own particular interest in teams of students – to 'design their thinking'. That is, to think critically and creatively about how they approach the development of solutions for ambiguous problems in a knowledge intensive culture. I suggest that a broader understanding of the design thinking discourse is required if this conversation is to change: one that repositions "design thinking" as the coming together of design thinking, design doing, and design culture. The graphic shows one way to depict the intersection of the boundary object of the design thinking discourse, the figured worlds generated (in part) through the changes to daily practice introduced by this discourse, and the

aptitudes of designers as demonstrated in their reorientation towards ambiguity, and my hope is that it may incite discussion about the interconnected nature of these factors in how designers do what they do so effectively in the studio.

Design thinking may be an exciting new way to talk about the work of designers, but what the designers at StudioX have taught me is that the discourse allows them to do something much more interesting than just repackaging creative labour. This discourse, when combined with an understanding of design doing, and design culture, allows them to *design* how they *think*: to develop a design mindset and as a result, to adapt to the new knowledge-intensive culture of the design studio. In the model proposed above, these three stages of designing how we think (and not just thinking like a designer) are dependent on the approach, aptitude and attitudes of those that create new forms of knowledge in ambiguous and uncertain circumstances, and in response to wicked problems of all types. By contributing this model of a design mindset to the larger discussion about how designers solve problems, I hope to expand our conceptions of what is required to implement a "designerly way of knowing and doing" both inside the studio, and out.

7.2 Limitations and future directions

Paying attention to how people think requires paying attention to what people do – to how their world is lived and who is doing what in it. The design studio, and digital experience design practice, remains relatively unexamined (Kimbell, 2009) from an ethnographic perspective, creating a need for further inquiry into the ways that knowledge-based organizations of this type may be different from other workplaces when it comes to evolving and adapting ways of making do within a daily practice. Through my study of this particular digital graphic design studio, I hope to contribute a picture of the experiences of designers working to do design

thinking to the more extensive conversation about design practice (Murphy, 2015; Murphy, Ivarsson, & Lymer, 2012; Yaneva, 2013) and design thinking (IDEO, 2017).

The shifts in the field of designing – from product to knowledge through changes to the what, the who and the how of design practice – impact more than just the cultural producers within this occupational community of practice. The appetite we have today in post-secondary education, policy, industry and health care for answers to *how* designers do what we call design thinking is voracious and relentless. Design thinking is currently the 58th most trending topic on Twitter (Twitter, 2017) and is the subject of four Canadian conferences with more than 10,000 total attendees in the year 2017 alone (RGD, 2017). How designers work, how they solve problems and how they apply design thinking to the generation of creative thought and the reliable and repeatable production of innovation is positioned as the key to economic success (Design Industry Advisory Committee, 2017b) and our national future (Canada Innovation Foundation, 2017). Through this dissertation, I hope to have contributed to the interdisciplinary conversation about our ability to adapt to an idea focused economy in ways that generate innovation and creativity by offering a model of how designers themselves are continually learning to do this ever-changing practice, with the confidence that by adding the story of the daily practice of designers to the narrative of the magic of design thinking perhaps a more complete picture might emerge.

The challenge presented here, of course, is that this study examines only one case – one studio which clearly cannot stand in for the whole. In addition, the use of a practice perspective suggests that the assemblages that make up designing no matter how well modelled as a taxonomy of practice change cannot themselves be transferred, only replicated as faithfully as possible in different settings (Shove & Pantzar, 2016). With those twin hurdles in mind, my aim

here was simple: that by learning how designers introduce, replicate, institutionalize and change aspects of their practice in one particular sample case of StudioX (and not in the entire industry), those interested in applying a "designerly way of knowing" (Cross, 1982) to problem-solving in other settings might be able to engage in replicating the mental technologies that together make up this collaborative innovation generation approach (Ligon & Wong Kung Fong, 2015). Finally, further studies of the ways in which high levels of industrial and organizational reflexivity (Caldwell, 2008; Gregg, 2009) impact practice change and evolution may present interesting and active areas of research for scholars like myself who are interested in occupational ethnography through the perspective of communication, organizational and cultural production studies alike.

The discourse of design thinking has indeed changed design practice – designers have adapted to the integration of the design thinking discourse as both boundary object and conversion tool by adapting their practice in ways that are much closer to epistemic cultures of work than to production ones. However, an expanded understanding of the components required to accomplish design work in an increasingly epistemic culture (as presented in the model above) can give those interested in generating creativity and innovation reliably and repeatedly a new set of tools. After conducting this field-work, and analyzing the data generated in collaboration with the designers of StudioX, I believe that we cannot simply adopt the rhetoric of design thinking in the hope that it might change how we think: we must also adopt the culture of the studio and the aptitude and the attitude of designers. This presents both implications for the use of design thinking models aimed at encouraging creativity and innovation at global and local levels, and possibilities for further study of how ambiguity can be mobilized as a generative force in problem-solving practice.

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Appendix A: Initial Letter of Contact to Design Organizations

Dear XXX,

I would like to invite your firm to participate in a research project focused on the work environment of the design studio, and the forms of creativity and practical decision making in the design process. The topic of design production remains under-researched in comparaison to other forms of creative work, and this project is an attempt to explore the working practices that define the daily life of experience, service and graphic designers.

This study focuses on how designers understand what it means to be a 'designer', and more specifically, how this understanding impacts their practice. This purpose of this study is to better understand the ways in which experience, service, branding and graphic designers work, and how new ways of working are being integrated into the creative process of designers. My aim is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in everyday practice from the perspective of the designers themselves. By observing and interviewing designers at work, this study will examine concepts of creativity, design thinking and design research to understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives. Additionally, this study will provide a contextual picture of the culture of contemporary design studios. I am hoping that this process will provide more knowledge about this unique space of work and the social role of creative workers, a field that I feel lacks critical attention.

As an essential part of this research, I would like to observe the work spaces of designers, and the creative decision making processes that shape and guide designer's practice over the course of an extensive client proejct. Your firm would be an ideal site for this work, as you provide an innovative approach to the integration of design, research and experience and have an innovative and exciting studio space. If you allow me to conduct observational research in your workplace, it would involve allowing me to observe general staff gatherings, client meetings and the way people work in teams in the studio space over the course of several weeks.

After doing this observation work, I would then like to interview some of your design team to hear their perspective on their work practice (these interviews would ideally happen later in the spring, and are something I would contact individuals about separately). Findings from my observational work, and from the interviews with designers at your firm will form the basis of my dissertation work, and will allow me to better understand how we describe and understand the changing practices of design thinking in the studio space.

The interview procedures and observations will be done in accordance with the University of Calgary's ethical research codes. You will have the opportunity to request that I do not observe or make notes at any time, and you may request that your company, any identifying information and all findings be reported using a psudonym for confidentiality. If you choose to participate, the design team at your firm will be contacted for informed consent for participation and they will also have the opportunity to opt-out of observation, data collection and interviews at any time. Details regarding your ability to withdraw your consent to participate are included in the attached consent form.

I'll try to reach you by phone in a week to see if you are interested in participating in this research, and if you would be open to letting me observe your studio space. If you would like to reach me in the meantime, please feel free to call me at 403-472-2322, or email to adorland@ucalgary.ca. For more information about this research project, please feel free to contact my supervisor, Dr. Brian Rusted at the University of Calgary at rusted@ucalgary.ca.

Thank you for your consideration and for your time. I look forward to your response.

Sincerely,

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Appendix B: Letter of Initial Contact to Individual Designers

Dear XXX,

I would like to invite you to participate in a research project focused on the work environment of the design studio, and the forms of creativity and practical decision making in the design process. The topic of design production remains under-researched in comparaison to other forms of creative work, and this project is an attempt to explore the working practices that define the daily life of experience, service and graphic designers.

This study focuses on how designers understand what it means to be a 'designer', and more specifically, how this understanding impacts their practice. This purpose of this study is to better understand the ways in which experience, service, branding and graphic designers work, and how new ways of working are being integrated into the creative process of designers. My aim is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in everyday practice from the perspective of the designers themselves. By observing and interviewing designers at work, this study will examine concepts of creativity, design thinking and design research to understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives. Additionally, this study will provide a contextual picture of the culture of contemporary design studios. I am hoping that this process will provide more knowledge about this unique space of work and the social role of creative workers, a field that I feel lacks critical attention.

As an essential part of this research, I would like to observe the work spaces of designers, and the creative decision making processes that shape and guide designer's practice over the course of an extensive client proejct. Your firm has agreed to allow me to observe the working practices of designers on a specific project, and if you consent to be involved in this project, it would involve allowing me to observe your working day during general staff gatherings, client meetings and team work in the studio space over the course of several weeks. You can find out more about the process and your opportunities for participation or refusal in this study on the attached consent form.

After doing this observation work, I would then like to interview you to hear your perspective on design work. You have an opportunity to opt-out of this portion of the research study on the attached consent form. Findings from my observational work, and from the interviews with designers will form the basis of my dissertation work, and will allow me to better understand how we describe and understand the changing practices of design thinking in the studio space.

The interview procedures and observations will be done in accordance with the University of Calgary's ethical research codes. You will have the opportunity to request that I do not observe or make notes at any time, and you may request that any identifying information and all findings be reported using a psudonym for confidentiality. Details regarding your ability to withdraw your consent to participate are included in the attached consent form. You will be participating in a research project, and observational data collection will be conducted during your work time. Your participation is voluntary, and your decision to participate will have no bearing on your status at the design firm.

If you would like to reach me to find out more about this research study, please feel free to call me at 403-472-2322, or email to adorland@ucalgary.ca. For more information about this research project, please feel free to contact my supervisor, Dr. Brian Rusted at the University of Calgary at rusted@ucalgary.ca.

Thank you for your consideration and for your time. I look forward to your response.

Sincerely,

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Appendix C: Consent Form for Participant Observation (Design Organization)

Name of Researcher, Faculty, Department, Telephone & Email:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Supervisor:

Dr. Brian Rusted
Head, Department of Art
Associate Professor, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary

Title of Project:

Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting.

Sponsor:

This project is funded by the Social Sciences and Humanities Research Council of Canada - Joseph Bombardier Doctoral Fellowship.

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Purpose of the Study

This purpose of this study is to better understand the ways in which graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will include interviews with designers, and observations of designers at work in a studio setting. The purpose of this study is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in the everyday practice of designers. This study will examine concepts of creativity, practice and research in order to help us understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

What Will I Be Asked To Do?

As the participating studio in this study, you will be asked to allow a researcher to observe your design team (designers, art directors and creative directors) over the course of a single project. You will be asked to allow the researcher to observe and interact with employees at your studio in order to develop an understanding of the working practices of designers, and to ask them questions about their work and about the ways that they research and design for different audience groups. The researcher will seek consent for participation from all team-members individually, and all participants will have the ability to opt-out from participation in this study at any time on an individual basis.

After reviewing working documents and visual materials relevant to the project, the researcher may request permission to reproduce some of those materials in the study. A further consent form will be provided in that situation, and you will have the opportunity to opt-out of this form of participation at any time.

Your team will be asked to engage in conversations with the researcher, and to allow the researcher to observe their work and make notes by hand. You will be welcome at any time and for any reason to request that the researcher refrain from making notes. The researcher will make every effort to ensure that her presence does not adversely impact the productivity or confidentiality of your workplace.

Participation in this research project is completely voluntary, and your organization may refuse to participate altogether. Your organization may also refuse to participate in parts of the study by requesting that the researcher refrain from observing specific events or activities, your organization may decline to answer any and all questions, and your organization may withdraw your participation from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

What Type of Personal Information Will Be Collected?

Should your organization agree to participate, you will be asked to provide your company name and geographic location (by first three digits of your postal code). Observational field notes will be made by hand. All employee names and, if you choose, your studio's name, will be referred to using pseudonyms in both field notes and in the final publication of findings. All notes taken during the observation period will be accessible only to the researcher, and will not be shared in public.

There are several options for you to consider if you decide to take part in this research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission for a researcher to observe my organization's workplace and employees: Yes: ___ No: ___

I grant permission for the researcher to collect and examine working documents generated by my organization and my employees: Yes: ___ No: ___

I grant permission to have my organization's name used: Yes: ___ No: ___

I grant permission to have my organization's geographic location used: Yes: ___ No: ___

I wish to remain anonymous, but you may refer to my organization by a pseudonym: Yes: ___ No: ___

The pseudonym I choose for my organization is: _____

Are there Risks or Benefits if I Participate?

You will not be paid for your participation in this research, nor should you incur any costs. This research

provides no foreseeable risks to participants.

What Happens to the Information I Provide?

Only the principal investigator and supervisor (listed above) will have access to the information collected during the observation period. All notes (both digital and written copies) will be encrypted, and stored in a password protected environment in a locked office and are accessible only be the principal investigator and her supervisor.

Your contribution will be treated as data, and will be used to develop further research themes for future phases of this project. Should you choose, your contribution will be presented under a pseudonym. Any examples of client names may also be presented under a pseudonym, if requested by you as the participant. All notes taken by the researcher during this observation period will be scanned digitally, and the encrypted data will be stored for five years on a computer disk, at which time, it will be permanently erased. If you choose to withdraw from this study, the data collected during this study will be destroyed immediately. This will include any audio recordings and transcripts of the interview sessions with consenting participants.

Would you like to receive a summary of the study's results?

Yes: ___ No: ___

If yes, please provide your contact information (e-mail address, or phone number)

_____

_____

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date: _____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

and

Dr. Brian Rusted
Department of Art, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-220-6260
rusted@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-4283/210-9863; email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix D: Consent form for Participant Observation (Individual Designers)

Name of Researcher, Faculty, Department, Telephone & Email:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Supervisor:

Dr. Brian Rusted
Head, Department of Art
Associate Professor, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary

Title of Project:

Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting.

Sponsor:

This project is funded by the Social Sciences and Humanities Research Council of Canada - Joseph Bombardier Doctoral Fellowship.

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Purpose of the Study

This purpose of this study is to better understand the ways in which graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will include interviews with designers, and observations of designers at work in a studio setting. The purpose of this study is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in the everyday practice of designers. This study will examine concepts of creativity, practice and research in order to help us understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

What Will I Be Asked To Do

As a participant in this study, you will be asked to allow a researcher to observe your work as part of a team (designers, art directors and creative directors) over the course of a single project. You will be asked to allow the researcher to observe your work in order to develop an understanding of the working practices of designers, and to ask you questions about your work and about the ways that you research and design for different audience groups. After reviewing working documents and visual materials such as visual brainstorms or sketches that you have produced that are relevant to the project, the researcher may request permission to reproduce some of those materials in the study. A further consent form will be provided in that situation, and you will have the opportunity to opt-out of this form of participation at any time.

Your will be asked to engage in conversations with the researcher, and to allow the researcher to observe your work and make notes by hand. You will be welcome at any time and for any reason to request that the researcher refrain from making notes. The researcher will make every effort to ensure that her presence does not adversely impact the productivity or confidentiality of your workplace.

As a participant in this study, you may also be contacted to participate in an individual interview with the researcher. You will be asked questions about your work, and about the ways that you research and design for different audience groups. You will also be asked a series of questions about your work history, and you will be asked to give examples of projects that you have worked on in the past in your position as a designer. You will not be asked to complete a questionnaire or survey. This interview will be digitally recorded (audio only) for transcription purposes. You have the option to opt-out of being contacted for the purposes of an individual interview, and can indicate your preference below on the form below.

Participation in this research project is completely voluntary, and you may refuse to participate altogether. You may also refuse to participate in parts of the study (including the workplace observation and follow-up individual interviews), may decline to answer any and all questions, and may withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled. You will be observed during your work time, and will be participating in a research project. Your consent is voluntary, and will have no bearing on your status in your firm.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your gender, age, professional and academic experience, geographic location (by first three digits of your postal code) and your name. This interview will be recorded digitally (audio only). All recordings will be accessible only to the researcher, and will not be shared in public.

There are several options for you to consider if you decide to take part in this research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission to be audio taped:	Yes: ___ No: ___
I grant permission to have my employment history used:	Yes: ___ No: ___
I grant permission to have my geographic location used:	Yes: ___ No: ___
I grant permission to have my academic history used:	Yes: ___ No: ___
I grant permission to be contacted in regards to an individual interview:	Yes: ___ No: ___
I wish to remain anonymous:	Yes: ___ No: ___

I wish to remain anonymous, but you may refer to me by a pseudonym: Yes: ___ No: ___

The pseudonym I choose for myself is: _____

Are there Risks or Benefits if I Participate?

You will not be paid for your participation in this research, nor should you incur any costs. This research provides no foreseeable risks to participants.

What Happens to the Information I Provide?

Only the principal investigator and supervisor (listed above) will have access to the information collected during this interview. The digital audio recordings and transcripts are encrypted and kept in a locked office and are accessible only be the principal investigator and her supervisor.

Your contribution will be treated as data, and will be used to develop further research themes for future phases of this project. Should you choose, your contribution will be presented under a pseudonym. Any examples of client names may also be presented under a pseudonym, if requested by you as the participant. The data will be encrypted and stored for five years on a computer disk, at which time, it will be permanently erased. If you choose to withdraw from this study, the data collected during your interview session will be destroyed. This will include all audio recordings and transcripts of the interview session.

Would you like to receive a summary of the study's results?

Yes: ___ No: ___

If yes, please provide your contact information (e-mail address, or phone number)

_____

_____

Are you interested in being contacted about a follow-up interview, with the understanding that you can always decline the request?"

Yes: ___ No: ___

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date:_____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

and

Dr. Brian Rusted
Department of Art, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-220-6260
rusted@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-4283/210-9863; email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix E: Consent form for Interviews (Individual Designers)

Name of Researcher, Faculty, Department, Telephone & Email:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Supervisor:

Dr. Brian Rusted
Head, Department of Art
Associate Professor, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary

Title of Project:

Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting.

Sponsor:

This project is funded by the Social Sciences and Humanities Research Council of Canada - Joseph Bombardier Doctoral Fellowship.

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Purpose of the Study

This purpose of this study is to better understand the ways in which graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will include interviews with designers, and observations of designers at work in a studio setting. The purpose of this study is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in the everyday practice of designers. This study will examine concepts of creativity, practice and research in order to help us understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

What Will I Be Asked To Do?

As a participant in this study, you will be asked to participate in an individual interview with the researcher. You will be asked questions about your work, and about the ways that you research and design for different audience groups. You will also be asked a series of questions about your work history, and you will be asked to give examples of projects that you have worked on in the past. You will not be asked to complete a questionnaire or survey. This interview will be digitally recorded (audio only) for transcription purposes.

Participation in this research project is completely voluntary, and you may refuse to participate altogether. You may also refuse to participate in parts of the study, may decline to answer any and all questions, and may withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your gender, age, professional and academic experience, geographic location (by first three digits of your postal code) and your name. This interview will be recorded digitally (audio only). All recordings will be accessible only to the researcher, and will not be shared in public.

There are several options for you to consider if you decide to take part in this research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission to be audio taped: Yes: ___ No: ___

I grant permission to have my employment history used: Yes: ___ No: ___

I grant permission to have my geographic location used: Yes: ___ No: ___

I grant permission to have my academic history used: Yes: ___ No: ___

I wish to remain anonymous: Yes: ___ No: ___

I wish to remain anonymous, but you may refer to me by a pseudonym: Yes: ___ No: ___

The pseudonym I choose for myself is: _____

Are there Risks or Benefits if I Participate?

You will not be paid for your participation in this research, nor should you incur any costs. This research provides no foreseeable risks to participants.

What Happens to the Information I Provide?

Only the principal investigator and supervisor (listed above) will have access to the information collected during this interview. The digital audio recordings and transcripts are encrypted and kept in a locked office and are accessible only be the principal investigator and her supervisor.

Your contribution will be treated as data, and will be used to develop further research themes for future

phases of this project. Should you choose, your contribution will be presented under a pseudonym. Any examples of client names may also be presented under a pseudonym, if requested by you as the participant. The data will be encrypted and stored for five years on a computer disk, at which time, it will be permanently erased. If you choose to withdraw from this study, the data collected during your interview session will be destroyed. This will include all audio recordings and transcripts of the interview session.

Would you like to receive a summary of the study's results?

Yes: ___ No: ___

If yes, please provide your contact information (e-mail address, or phone number)

_____

_____

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date:_____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

and

Dr. Brian Rusted

Department of Art, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-220-6260
rusted@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-4283/210-9863; email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix F: Consent form for use of participant produced materials (Design Organization)

Name of Researcher, Faculty, Department, Telephone & Email:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Supervisor:

Dr. Brian Rusted
Head, Department of Art
Associate Professor, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary

Title of Project:

Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting.

Sponsor:

This project is funded by the Social Sciences and Humanities Research Council of Canada - Joseph Bombardier Doctoral Fellowship.

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Purpose of the Study

This purpose of this study is to better understand the ways in which graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will include interviews with designers, and observations of designers at work in a studio setting. The purpose of this study is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in the everyday practice of designers. This study will examine concepts of creativity, practice and research in order to help us understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

What Will I Be Asked To Do?

In this portion of the research study, you will be asked to allow the researcher to collect and document some of the visual materials produced by your creative team members during the process of designing. These materials will be scanned digitally, and all identifying components will be redacted. The copyright for these materials will be respected, and your firm (using the pseudonym you select) will be credited if they are reproduced as images in the dissemination of research findings.

Participation in this research project is completely voluntary, and you may refuse to participate altogether. You may also refuse to participate in parts of the study, may decline to answer any and all questions, and may withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to allow the researcher to collect and reproduce some of the working materials produced by participants over the course of this study.

There are several options for you to consider if you decide to take part in this component of the research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission for the researcher to scan participant produced visual materials: Yes: ___ No: ___

I grant permission to have visual materials reproduced in the dissemination of research findings: Yes: ___ No: ___

The pseudonym I choose for my organization in the credit information relevant to the reproduced participant produced visual materials is: _____

Are there Risks or Benefits if I Participate?

You will not be paid for your participation in this research, nor should you incur any costs. This research provides no foreseeable risks to participants.

What Happens to the Information I Provide?

Only the principal investigator and supervisor (listed above) will have access to the participant produced visual materials collected and scanned. The scans will be encrypted and kept in a locked office and are accessible only be the principal investigator and her supervisor.

Your contribution will be treated as data, and will be used to develop further research themes for future phases of this project. Should you choose, your contribution (and the associated image-credit information) will be presented under a pseudonym. Any examples of client names may also be presented under a pseudonym, if requested by you as the participant. The data will be encrypted and stored for five years on a computer disk, at which time, it will be permanently erased. If you choose to withdraw from this study, the data collected will be destroyed. This will include all digital scans of participant produced visual materials.

Would you like to receive a summary of the study's results?

Yes: ___ No: ___

If yes, please provide your contact information (e-mail address, or phone number)

_____

_____

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date:_____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

and

Dr. Brian Rusted
Department of Art, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-220-6260
rusted@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-4283/210-9863; email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix G: Consent form for use of participant produced materials (Individual Designers)

Name of Researcher, Faculty, Department, Telephone & Email:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Supervisor:

Dr. Brian Rusted
Head, Department of Art
Associate Professor, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary

Title of Project:

Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting.

Sponsor:

This project is funded by the Social Sciences and Humanities Research Council of Canada - Joseph Bombardier Doctoral Fellowship.

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study. Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Purpose of the Study

This purpose of this study is to better understand the ways in which graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will include interviews with designers, and observations of designers at work in a studio setting. The purpose of this study is to contribute to a further understanding of one of Canada's fastest growing employment sectors, and to explore the nature and form of "design thinking" in the everyday practice of designers. This study will examine concepts of creativity, practice and research in order to help us understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

What Will I Be Asked To Do?

In this portion of the research study, you will be asked to allow the researcher to collect and document some of the visual materials that you produce during the process of designing. These materials will be scanned digitally, and all identifying components will be redacted. The copyright for these materials will be respected, and your organization will be credited if they are reproduced as images in the dissemination of research findings. Final client design solutions will not be collected or reproduced. This component of the study is interested in working documents only.

Participation in this research project is completely voluntary, and you may refuse to participate altogether. You may also refuse to participate in parts of the study, may decline to answer any and all questions, and may withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to allow the researcher to collect and reproduce some of the working materials that you produce (such as sketches, visual brainstorms or notes) over the course of this study.

There are several options for you to consider if you decide to take part in this component of the research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission for the researcher to scan the visual materials I produce during my work process: Yes: ___ No: ___

I grant permission to have visual materials reproduced in the dissemination of research findings: Yes: ___ No: ___

Are there Risks or Benefits if I Participate?

You will not be paid for your participation in this research, nor should you incur any costs. This research provides no foreseeable risks to participants. You are participating in a research study, and the documents collected and scanned by the researcher will be products of your work practice. Your participation is voluntary, and will have no bearing on your status in the organization.

What Happens to the Information I Provide?

Only the principal investigator and supervisor (listed above) will have access to the participant produced visual materials collected and scanned. The scans will be encrypted and kept in a locked office and are accessible only be the principal investigator and her supervisor.

Your contribution will be treated as data, and will be used to develop further research themes for future phases of this project. Should you choose, your contribution (and the associated image-credit information) will be presented under a pseudonym. Any examples of client names may also be presented under a pseudonym, if requested by you as the participant. The data will be encrypted and stored for five years on a computer disk, at which time, it will be permanently erased. If you choose to withdraw from this study, the data collected will be destroyed. This will include all digital scans of participant produced visual materials.

Would you like to receive a summary of the study's results?

Yes: ___ No: ___

If yes, please provide your contact information (e-mail address, or phone number)

_____

_____

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date:_____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

and

Dr. Brian Rusted
Department of Art, Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-220-6260
rusted@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-4283/210-9863;

email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix H: Semi Structured Interview Script

Semi Structured Interview Script

Title of Project: Design Thinking and Design Doing: An Ethnography of Designers and Their Practices of Cultural Production in the Studio Setting

Name of Researcher:
AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

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1. Walk me through the steps you take to design a typical project.
   [PROBES: How do you know when you've reached a design solution? Who else is involved in your work? What kinds of online and in person resources help you with your work? How do you bill your time? What are the expectations you have for your work?]

2. Think about your ideal creative process. Tell me what you think this would be like.
   [PROBES: Where did you learn to work this way? What would you change if you could? Who makes the decisions that impact you? What routines do you find you rely on in creating different kinds of design work? What happens when a creative solution fails?]

4. Describe what you understand to be the role of the designer.
   [PROBES: What is the impact of having clients involved in different stages? What other team members do you work with? Do they do any of the work that you used to do? Who generates the brief? Who makes the creative decisions?]

3. Have things changed since you started out as a designer?
   [PROBES: Where do you learn about best practices in the industry? Who do you learn from? Has your creative process changed because of new practices? What changes have you seen over your career? What new expectations do you encounter now that you did not expect when you started?]

5. Tell me about the ways that you describe a successful project.
   [PROBES: How do you deal with award submissions? What do you focus on when using a project for client promotions? What is the most important aspect of a design project for evaluation purposes?]

2. When you design, who are you designing for?
   [PROBES: How do you pitch your work for the client? How do you position the work for

your coworkers, or your accounts team? What impact does research that you or your accounts team develop have in your design work? What kind of research training do you have? Who provides you with the information you need to design?]

Appendix I: Sample Email Recruitment Advertisement

For Distribution Through the Listserve of the Graphic Designers of Canada.

Participants Needed for Research Into the Working Practices of Graphic Designers

We are looking for volunteers to take part in a study of the working practices of branding, service, experience and graphic designers.

This study focuses on how designers understand the structure and role of their work, and more specifically, how this understanding impacts their practice. This purpose of this study is to better understand the ways in which experience, service, branding and graphic designers work, and how new ways of working are being integrated into the creative process of designers. This study will contribute to a further understanding of one of Canada's fastest growing employment sectors, and will explore the nature and form of "design thinking" in the everyday practice of designers. By interviewing designers like you, this study will examine concepts of creativity, design thinking and design research to understand what designers working as cultural producers can tell us about how the development of communication, service, experience and branding materials impacts and influences our every-day lives.

To achieve the above research objectives, it is essential to interview designers like you! As a participant in this study, you would be asked to spend approximately one hour in person or over the phone discussing your design practice. To find out more about participating in this resaerch project, and the informed consent process, please see the attached consent form.

The interview procedures and observations are in accordance with the Univeristy of Calgary's ethical research codes, and details regarding your ability to withdraw your consent to participate are included in the attached consent form. The confidentiality of interview contents will be ensured, and you may select the use of a pseudonym for use in the encoding, transcription and publication of findings.

For more information about this study, or to participate in this study, please contact
AnneMarie Dorland
Department of Communication, Media, and Film
Faculty of Arts, University of Calgary
403-472-2322
adorland@ucalgary.ca

Appendix J: Sample Recruitment Twitter postings

Designers! Participants Needed for UCalg study on the work practice of graphic and service designers. Want to participate in an interview re.how we work/research/create?

Designers! Participate in a UCalg study re. how designers work/research/create: interview respondents needed re.design thinking/doing

Designers! Participate in a UofC study re.how you work/create: interview respondents needed re.des*ign thinking/doing* http://bit.ly/2e35rOz

Designers! Participate in a UofC study re. design thinking/doing: interview respondents needed. http://bit.ly/2e35rOz to find out how!