ATHABASCA UNIVERSITY

THE TRANSIENT SPACES OF STUDIO LEARNING:
BUILDING A THEORY OF ONLINE STUDIO PEDAGOGY
IN GRAPHIC DESIGN EDUCATION

BY LISA JUDE HAMMERSHAIMB

A DISSERTATION SUBMITTED TO THE FACULTY
OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF EDUCATION IN DISTANCE EDUCATION

THE CENTRE FOR DISTANCE EDUCATION
ATHABASCA UNIVERSITY

APRIL 2018

Athabasca University
FACULTY OF GRADUATE STUDIES

The future of learning.

Approval of Dissertation

The undersigned certify that they have read the dissertation entitled:
The Transient Spaces of Studio Learning:
Building a Theory of Online Studio Pedagogy in Graphic Design Education

Submitted by:

Lisa Hammershaimb

In partial fulfillment of the requirements for the degree of

Doctor of Education in Distance Education

The examination committee certifies that the dissertation
and the oral examination is approved

Supervisor:
Dr. George Siemens
University of Texas &
Adjunct Professor at Athabasca University

Committee Members:
Dr. Jon Dron
Athabasca University

Dr. Catherine Spann
University of Colorado

External Examiner:
Dr. Katy Campbell
University of Alberta

April 17, 2018

1 University Drive, Athabasca, AB, T9S 3A3 Canada
P: 780.675-6821 | Toll-free (CAN/U.S.) 1.800.788.9041 (6821)
fgs@athabascau.ca | fgs.athabascau.ca | athabascau.ca

Dedication

This work is dedicated to the educators who choose the uncharted realms and the less traveled roads. Your daily commitment to show up to the remarkable ordinary of higher education is bringing good on a scope far wider than you can imagine.

Acknowledgements

One of the great benefits of being parsimonious within the body of my dissertation is that it affords me the luxury of being generous in my acknowledgements. First, huge thanks to my participants. This dissertation would not exist without you first trusting me, and next sharing the scope of your own experiences as design educators. The dominant narrative in education seems to be one of brokenness—where crises and chaos reign supreme and without an outside savior, meltdown is inevitable. While it is easy to believe the hype, after spending time learning from each of you I am convinced that far from being a negative, "broken" means we now have the privilege of taking the pieces of the past in our hands to re-build with our students something that works best for this time and this place. Though the situation is complex, your commitment to creative peacemaking between old and new systems and your commitment to being human-first in all ways has made me hopeful about our future as design educators and the future of design education.

Next, thanks to my super amazing supervisor, George Siemens. Early in this journey George told me that a doctorate is roughly 30% you adding new knowledge to the world and 70% you developing as a human. I thought at first this was just a quaint George-ism but soon came to realize this journey provides an ideal opportunity to train your weakness and—if you're willing to do the messy internal work—slowly turn it into strength. Thanks George for showing up both in the glory and the less than ideal bits, for all of your patience in my paranoid passive-aggressive pestering, and above all for your unwavering advocacy. On the other end looking back, I know I am a far better human for the process. Hopefully you too have gained some good in these past many years since clearly...it does take a student to raise a supervisor!

Thank you too to my committee members, Jon Dron, Catherine Spann, Brian Sinclair, and Katy Campbell. While I may have not fully appreciated your comments and suggested edits while I was in-process, it is clear that this piece is much stronger for your astute perspective and I am grateful for your honesty.

Huge thanks as well to Cohort 6, past and present: Peggy Lynn MacIsaac, Tracy Orr, Leslie Duran, Viviane Vladmirschi, Lynne Rabak, Craig Rose, Rosetta Sornabala, Neera Arora, Dan Ritco, and Shelley Pinder. While I have no doubt we are all strong and capable of doing this all on our own, I am so glad we do not have to. Co-heart is indeed an apt description of the love I feel for you all. I am so thankful that you welcomed me into your lives and made me an honorary Canadian.

Thanks as well to Jessie Jones and Krystal Zahara from the Faculty of Graduate studies at Athabasca. Your calm patience toward me and your dedication to walking me off the ledge time and again when I was at my worst was so much appreciated.

Thanks to all the friends who have walked with me through this process. Your cheerleading and constancy (even when I am pretty sure you had little idea of just what I was doing because...I myself was lost!) have been life for me on more occasions than I can count. A special thanks to The Practice Tribe for teaching me how to center and root myself into the beautiful mystery that is transformational community. This vision of connection and service for the sake of the world helped keep me on track when—during the long middle—I was sorely tempted to wander. Special thanks to Roselyn Heims, aka the comma lady, for showing up and saving me at just the perfect moment.

Massive thanks to my family: Harold, Jean, Sarah, Jody, Dan, Ruthie, Micaiah, Peter, and Yali. Thank you for digging in and being present through it all. Your constant reminders

both in words and actions that I am loved unconditionally have grounded me and held me through so much and I am confident I could not have made it through without your support. Thank you for being positive no matter the dire circumstances I predicted and for reminding me in so many ways that all would be okay in the end. Also, thank you for listening to numerous presentation rehearsals, reading and re-reading drafts, and becoming inadvertent experts on studio pedagogy.

Finally, thank you to the non-human who has been with me through it all, Ruby Joy. Your spirit, spunk, and total commitment to live in just. this. moment. never cease to challenge me to take a much healthier perspective on life. Thank you for keeping supervisory meetings light with your webcam appearances, being my co-lead in research interviews and focus groups, and reminding me that inspiration seldom comes when staring at a blank screen thus playing fetch is always the right choice.

Abstract

This research study sought to create a theory describing how graphic design educators are using the internet to augment and extend studio pedagogy in graphic design education. The Replication-Collaboration Continuum, the theory that resulted from this study, can aid future design educators in decision-making about potential course delivery options. This study used grounded theory methodology and gathered data through solo interviews, focus groups, and memos. Research participants were graphic design educators located around the world. This study contributed to the general body of knowledge on graphic design studio pedagogy and addressed specifically how studio pedagogy, a phenomenon traditionally enacted in a face-to-face setting, has been translated to an online environment.

Table of Contents

List of Figures

Chapter 1: Introduction

Overview

Through the use of grounded theory, this study explores how graphic design educators are using the internet to augment and extend studio pedagogy. Studio pedagogy is the main teaching and learning methodology for design education (Dutton, 1987). It is a methodology that combines principles of problem-based learning with situated cognition (Chen & You, 2008; Brown, Collins, & Duguid, 1989). In studio pedagogy, theory and practice are intertwined. Learning happens in an active manner through the process of solving actual design problems within the context of the physical studio space (Chen & You, 2008; Dutton, 1987; Crowther, 2013). Studio pedagogy has been the main teaching and learning methodology in design education from the early European schools of design, to the Bauhaus, to colleges and universities offering art and design degrees today (Boyer & Mitgang, 1996; Crawford, 2013; Bender & Vredevoogd, 2006; Chen & You, 2008).

Characteristics of Studio Pedagogy

With its emphasis on educator and learner relational dynamics and enculturation into professional practice, studio pedagogy resembles an apprentice-learning paradigm (Kvan, 2001; Logan, 2007; Shulman, 2005; Austerlitz et al., 2009). Studio pedagogy is active learning or "learning-by-doing" (Nottingham, 2014, p. 11). It consists of open-ended project briefs, iterative process, and constant formative critique, primarily by the educator (Fung, 2015). Studio pedagogy also emphasizes process and exploration. Learners are not taught to find the one correct answer, but rather to first assess context, and next create an appropriate artifact or designed campaign (Dutton, 1987). Emphasis is

on process and exploration. Amidst the abundant possibilities, educators impart not only technical construction skills, but also "...the ability to operate in the complexities of uncertainty" (Austerlitz et al., 2009, p. 6).

Design involves an embodied cognition where the designer draws on tacit knowledge to work with and through materials in an iterative process (Polanyi, 1958; Groth, 2016). Creation happens through the mind and body working together, and designers “think through their hands” (Groth, 2016, p. 3). Studio pedagogy is often built on a one-to-one conversation between a learner and an educator (Swann, 2002). During a studio class session, an educator models technical skills, while re-working a learner’s own creation as the learner watches. During this process, the educator engages in reflective dialogue, explaining his or her creative motivations, interpreting the project brief, and weaving the current project into a larger professional graphic design narrative. These combined methods of action and reflection give insight into both the educator's explicit physical actions and his or her tacit underlying motivations. This insight provides an embodied example of professional practice for learners. This exchange is vital to learners because it provides exposure into the multifaceted work of being a designer (Schön, 1983).

Traditional Studio Learning Spaces. The physical place of the studio is thought to be complicit in studio pedagogy (Nottingham, 2014). Logan (2007) purposes that “design knowledge cannot be ‘taught’ in the formal sense.” Rather, it develops through “extended participation in studio-based activities” (p.11). Hunt (2015) posits that one of the hallmarks of traditional studio pedagogy is its ability to use the physical studio space to nurture the non-verbal elements of design learning. Pinning up work in various states

of completion transforms tables, walls, and even hallways, into vital non-human pedagogical agents within the studio (Nottingham, 2014). Critical thinking and conversation around both design exemplars and work in progress helps learners build professional design "habits of mind" (Sims & Shreeve, 2012, p. 55). The routine of specific meeting times and dedicated unique learning spaces fosters formation of communities of practice within the design studio (Logan, 2007; Lave & Wenger, 1991).

Online Studio Learning Spaces. Though in the past, graphic design education was primarily conducted in physical face-to-face studios, graphic design educators today are beginning to leverage the internet to extend studio learning spaces online (Fleischmann, 2013; Peterson et al, 2015; Nottingham, 2014). These online studio spaces can either occur in tandem with physical face-to-face studios, or replace a physical studio space by using a combination of text-based forums and video conferencing software (Nottingham, 2014). Educators who extend studio pedagogy in these ways cite that online studio spaces allow design collaboration to transcend time and distance, and thus prepare learners to become active members of the digitally-connected arts community (Budge, 2013; Matthews & Weigand, 2001). Because working as a contemporary graphic designer requires collaboration via technology mediated methods, educators affirm that using the internet to extend studio pedagogy could provide students with a "rehearsal of future workplaces and help prepare students for a global, networked, and competitive professional design practice" (Pektas, 2015, p. 261).

Problem Statement

If studio pedagogy is "essentially dialogical and social" (Pektas, 2015, p. 263) so that the educator relies on conversations around physical artifacts to play a key role in

learning, it becomes vital to consider how educators navigate the studio experience, when they are no longer co-present with the learners in the same physical space. The problem this study will address is how one can navigate, manage, and sustain the dialogic nature of studio pedagogy, and the studio community, when using the internet to augment and extend studio practices.

While all recognize that studio pedagogy undergoes change when it shifts to an online, computer-mediated format (Percy, 2004; Bender & Vredevoogd, 2006), graphic design online studio pedagogy lacks an empirically-based research framework. Online studio pedagogy defaults instead to anecdotal individual best practices. These practices, based on contextual situations, generalizations, and abstracted metaphors, untangle the "hazy sphere that is design education" (Nottingham, 2014, p.5). Indeed, Bender and Vredegood cite the studio as being "disturbingly constant" (Bender & Vredevoogd, 2006, p. 114) in the face of technological innovation, and call for more research around online studio teaching practices. Chen and You (2008) continue this call, noting that because the design environment has faced so many significant technological changes in recent decades, updating studio pedagogy to ensure learners are more familiar with the new methods and techniques of design practice has become the "critical issue for design education" (p.152). This study exists against this backdrop of calls for ongoing research into online studio pedagogy.

Purpose of Study

The purpose of this study is to create a theory that will address how graphic design educators use the internet to augment and extend studio pedagogy in graphic design education. As noted, the physical design studio has been the key arena of design

learning. Because graphic design learning requires a high level of tacit knowledge, transmitted via the close confines of the studio setting, claims exist that any separation of educator and learner in a geographic manner would pose a grave threat to studio pedagogy (Kvan, 2001; Souleles, 2011).

Nottingham (2014) notes that the few existing accounts of graphic design studio pedagogy express a distinct "unease around the idea of separating student and teacher bodies" (p. 28). Hunt (2015) affirms this unease, in stating that contact mediated by a computer cannot convey body language, verbal interchange or foster a sense of common studio community (p.31). In 2015, Fleischmann interviewed ten design educators from three different countries to explore what the design education of the future might look like. Though educators noted online learning was a factor to consider, all believed the critical and creative thinking skills necessary to be a professional designer cannot occur in an online course (p. 105). However, traditional studio-based teaching with its resource intensive requirements of space and time is becoming difficult to sustain (Bender & Vredevoogd, 2006). Thus "design educators need to rethink pedagogy for the online environment and use the technology to develop effective on-campus and online learning environments" (Fleischmann, 2015, p. 124). A central goal of this study is to address this dichotomy, creating a theory about online studio pedagogy in graphic design education, to aid future design educators in decision-making about potential course delivery options.

Research Questions

The central research question guiding this study is: how are graphic design educators using the internet to augment and extend studio pedagogy?

The following subquestions will guide the study, bearing in mind the emergent nature of grounded theory:

1. What pedagogical impact do educators perceive comes from extending studio pedagogy via the internet?
2. What influence does professional graphic design work experience have on the ways educators use the internet to extend studio pedagogy?
3. How does augmenting the studio via the internet alter the educator experience of studio pedagogy?
4. How are institutions supporting efforts to use the internet to augment and extend studio pedagogy?

The following section expands upon each question, to provide insight into educator experience of extending studio pedagogy. The focus of this study will be on the educator experience rather than the learner experience, because traditionally design educators are the more knowledgeable "master practitioners" (Pektas, 2015, p. 257) who guide and direct the studio experience. Though relationships become increasingly decentralized when using the internet to extend studio pedagogy, a key factor for a successful course still remains the educator's own attitude toward technology and experimentation (Pektas, 2015; Crowther, 2013). By examining and documenting educator experience, this study endeavors to aid design educators in the "enormous task…to define and shape the education of the future designer" (Fleischmann, 2015, p. 124).

Research Questions Expanded

Pedagogical Impact. Technology and the integration of digital media have shifted graphic design practice and production (Poon, 2015). Greater democratization of

access to design learning opportunities and design software opened the potential for designing to be a participatory act (Fleischmann, 2015). To prepare for professional practice, design learners must be comfortable participating in multidisciplinary, interdisciplinary or trans-disciplinary teams. Learners also must embrace flexibility, especially within the context of collaborative relationships (Fleischmann, 2015; Peterson et al, 2012). While studio pedagogy once privileged the individual's own creative response to a design challenge, it must now become a training ground to teach learners to navigate many-to-many collaborative relationships (Davis, 2008). Pektas (2015) posits that this shift can occur by augmenting traditional face-to-face studio structures with distributed, virtual design studios. Through investigating the results that come from using the internet to augment studio pedagogy, this study will illuminate how educators who are using the internet to extend studio spaces perceive resulting shifts in pedagogy, particularly surrounding the ability of the educator to promote collaborative relationships and learning spaces.

Educator Professional Work Experience. Design learning has a long tradition of flowing from master to apprentice within the context of a workplace environment. In graphic design higher education, this master-apprentice dynamic plays out within the studio, as the studio itself mimics professional design practice (Nottingham, 2014). Educators' own experiences working in the field of design, shape how they coach learners. Educators' experience of professional practice often impacts their pedagogical decisions (Schön, 1983). Through investigating how an educator's professional work experience impacts his or her teaching practice, this study will explore the perceived tie between professional design practice and extending studio pedagogy using the internet.

Educator Studio Experience. Bender and Vredevoogd (2006) found that incorporating technological elements from online/distance education into traditional design studio spaces, could alter the interaction and relationship between educators and learners. For example, placing both course materials and critique files into a format that is accessible at any time enables learners to receive greater access to feedback and course information, than if the learning community exists only in a physical studio space (p. 121). However, this shift often requires an educator to learn new software skills and also to adapt his or her face-to-face teaching practices. Thus, this accessibility often leads to an increased time commitment from the educator. Through investigating the educators' experience of a greater decentralized studio, this study will illuminate the ramifications that come from introducing such changes.

Institutional support. Souleles (2015) notes that shifting course delivery from a face-to-face format to one that is a hybrid, or online delivery, requires a "change of perceptions and practices, at both the educator and organizational levels" (p. 6659). Educators must be willing to invest time learning required skills and also to embrace the uncertainty of bringing in a technology agent as a mediator to the learning process (Mitchell, 2016). Without institutional support in the form of research time, IT assistance, and clear program policy, many educators have neither time nor interest in using the internet to extend the studio (Gruba, 2001). Through investigating the educator's experience of the institutional support element inherent in extending studio spaces, this study will explore the complex institutional system within which studio learning takes place.

Significance of the Study

Studio pedagogy is "often cited as the paradigm for new types of learning, because of its emphasis on open-ended, multi-disciplinary and problem-based learning…built around collaborative critique and self-reflective iteration" (Boys, 2011, p. 8). In this way, studio pedagogy may be applicable even in other disciplines and professions (Ochsner, 2000). Exploring the ways studio pedagogy can extend to an online learning space has the potential to lead the way in illuminating how other disciplines might use online studio learning spaces (Peterson, et al, 2015).

In studio pedagogy, educators are the key actors as they model professional practice and shape learner work and vision through critique (Schön, 1983). However, there is scant educational research examining studio pedagogy, in either onsite or online spaces (Dinham, 1987; Nottingham, 2014; Davis, 2008; Mitchell, 2016). By exploring from the educator's experience, this study offers insight into the intricacies encountered in using the internet to extend traditional face-to-face graphic design studio pedagogy. With the knowledge that emerges from this study, graphic design educators can better tailor and augment their teaching methodologies to include non-traditional, internet-based delivery formats.

Summary

Through a statement of project significance and an overview of research questions, this chapter has provided an introduction to the context of this study. The research in this study will provide educators insight into online studio pedagogy. In addition, this study will create a theory about how graphic design educators are using the internet to augment and extend studio pedagogy. Chapter Two reviews the existing

literature related to the history of graphic design studio pedagogy and current practices in both studio learning, and graphic design professional practice. Chapter Three describes this study's research approach and methodology. Chapter Four outlines the findings of this study. Chapter Five concludes with implications for design education and future research potential.

Chapter 2: Literature Review

Introduction

As noted in the first chapter, educators cite that online studio spaces allow design collaboration to transcend time and distance, and can prepare students to become active members of the digitally connected arts community (Budge, 2013). This proclamation is in contrast to the mainstream thinking among design educators that separating educator and learner during the learning process would render design learning impossible (Kvan, 2001; Souleles, 2011; Nottingham, 2014). The intent of this study is to address this pedagogical divide by exploring how graphic design educators use the internet to augment and extend studio pedagogy.

This chapter will review existing literature related to the history of graphic design studio pedagogy and current practices in both studio learning and graphic design professional practice. This literature review traces through three strands. The first strand operationally defines graphic design and outlines its shifting scope. The second strand provides insight into the history of graphic design, unpacking the complicated relationship that exists between graphic design education and fine art education. The third strand outlines contemporary graphic design education, highlighting how changes in professional practice have prompted calls for an evolution of traditional studio pedagogy.

Strand 1: The Shifting Scope of Graphic Design Practice

Defining Graphic Design

For the purposes of this study, graphic design is, "...an activity that organizes visual communication in society. It is concerned with the efficiency of communication, the technology used for implementation, and the social impact it effects—in other words,

its social responsibility" (Frascara, 2008, p. 28). At its most fundamental, graphic design is a communication process—conveying a message in varying degrees of complexity from one party to another. The message provokes a response that is audience-dependent, shifting audience behavior through its implementation (Bennett, 2006). Like the other facets of design (industrial, interior, etc.), graphic design is a synthetic field; graphic design is not so much tied to a strict disciplinary practice, but rather integrated into other fields and connected to other disciplines (Swanson, 1994).

Eras and Orders of Professional Design Practice

To understand the motivations of design educators who use the internet to augment traditional studio pedagogy, it is helpful first to frame the macro landscape of design practice through two seminal models which outline how design has changed and shifted throughout its history. These models are Jones' Four Eras of Design and Buchanan's Four Orders of Design.

Jones' Four Eras of Design. Jones (1970) classifies design practice into four eras: the era of craft evolution, the era of design by drawing, the era of systems designing, and the era of technological or socio-technical change. Jones has proved to be prescient in his predictions about design's progression (Davis, 2015). The first era, craft evolution, is representative of the historic past when craftsmen were the exclusive keepers of design knowledge. In this era, knowledge passed down from person to person in an intimate manner. The craftsman was both the initiator and the creator of the artifact. The second era, design by drawing, is also known as the black box method of design. In this era, designers received a brief from a client and then created an appropriate solution. The design process was completely closed and the individual designer's own vision was

the sole input into the artifact. The third era, systems designing, marks a move to creation of design by a collective of individuals. In this era, designers navigated not only requirements of a project brief, but also interpersonal team dynamics. The fourth and final era, which Jones posits should mark design practice today, is the era of technological or socio-technical innovation. The fourth era requires designers to be cognizant of the larger social, economic, and ecological impacts of their design decisions. Besides working with other designers, designers must also work with those outside of the discipline, often at a geographical distance, through technology-mediated communication to forge multi-disciplinary solutions.

Buchanan's Four Orders of Design. Buchanan (2001), classified design into four orders which impact design practice and design education. These orders are classified as the following: design as symbols, design as artifacts, design as interactions, and design as systems. Buchanan posits that design was once centered in the first two orders: symbols and artifacts. Design in these lower orders focuses on finding solutions to discrete problems. Examples of design output in these orders include logos, signage, advertising, and product packaging or material objects. The main purpose of design in the first and second orders is the material object. The third and fourth orders call upon the designer to be more abstract in his or her output, designing interactions, systems/environments, and strategy. Examples of design output in these orders include the design of interfaces, experiences, and larger networks or systems. The main purpose of the third and fourth order is the design of systems or schemes of information. In contrast to design in the lower orders, the user's own experience and input becomes important; design becomes more about creating schemes and interfaces in which users

can interact rather than simply about material objects. As designers become part of multi-disciplinary teams working at a systems level, these two latter orders are most indicative of the professional design world today. As cited by Buchanan (2001), design today is not about humans in communication with a message presented by a non-human actor (such as a poster, logo, etc.). Rather, design is about how humans relate to other humans through the "mediating influence of products" (p. 11). This move coincides with Jones' proclamation that we have entered the era of socio-technical innovation, where, once more, designers must balance a variety of diverse inputs and be part of diverse teams to generate solutions.

Both Jones and Buchanan see design as having moved to a place of complexity beyond the scope of a single designer, or the production of a single artifact. Designers enter a complex system not as all-knowing specialists, but as other actors who must work in collaboration for a final output (Buchanan, 2001). Because designers are often part of multi-disciplinary teams, they must be comfortable communicating and collaborating in diverse ways. Design now encompasses mediation of relationships, actions, and environments. This movement in design practice requires an accompanying movement in design education (Davis, 2008). Studio pedagogy must transition from a focus on the tangibles of design production to a focus on training learners to navigate the intangibles of design. This shift supports the latter eras and orders of Jones and Buchanan. One key way this transition can happen is through the integration of greater online practices within studio pedagogy (Chen & You, 2008).

Strand One Summarized. Graphic design education programs are vocational in nature (Swanson, 1994) thus graphic design education should connect to graphic design

professional practice (Bridges, 2013). Traditional design education and traditional studio pedagogy—with its project-based learning structure and assessment-by-product outcome—privileges Jones' first three eras and Buchanan's first two orders of design. Though this methodology served design in the late nineteenth and twentieth century, designers today are moving into a technological era, designing for interactions and strategies. Shifts in practice call for accompanying shifts in design education. This study will provide insight into how these shifts might occur.

Strand 2: Historical Overview of Graphic Design

Before moving into a discussion of contemporary graphic design education and the ways design education can shift to better support the latter eras espoused by both Jones and Buchanan, it is important to understand the practical relationship that has existed between design education and design professional practice. Also, it is important to understand the ways design education has evolved from its beginnings as an apprentice tradition, to its entry into formalized academia in the mid twentieth century (Bridges, 2013).

Graphic design traces its beginnings to the nineteenth century, shortly after the industrial revolution. At that time, graphic designers worked alongside printers to produce various pieces of ephemera promoting specific products, messages, or ideologies (Drucker & McVarish, 2008). As large-scale commercial printing became more prevalent, companies began promoting their products through unique, visual means. Though graphic design used a visual language like fine art, because it served commercial ends, it was not considered art, nor were its practitioners were not considered artists (Drucker & McVarish, 2008). In 1911, A. Rowden King of The Ethridge Company (a

prominent New York illustration, engraving, and printing company) began popularizing the idea that, though illustrated advertisements may at first glance seem akin to fine art, fine art and commercial art were in opposition to one another with “the aim of the former being the beautiful and that of the latter sales, sales, always sales.” (p. 50).

Design Education as Vocational Training

The divide between art and design was further manifested by the educational system. The training of designers traces not from the formalized art academies of Italy or France, but rather to the regional design schools, which emerged in Europe in the early nineteenth century (Daichendt, 2010). In early design education, the educator and learner were in a contractual relationship. Through on-the-job training, the educator passed on technical skills and the information needed to succeed in a fast-paced industrial setting. A successful design program improved the industrial output of a country, producing items that were more desirable on the export market. Having well-trained designers was the means to achieve a competitive export edge amongst other countries (Oshinsky, 2006).

Design schools existed to serve the industrial production needs of the day, following a curriculum that was "...drastically different from the training of academic artists" (Daichendt, 2010). Design programs were (and, some would posit, continue to be) vocational in nature (Swanson, 1994). Design schools were training grounds for workers who were vital to industrial production. To be an accomplished designer was to be adept at copying a given pattern, geometric composition, or illustration style, which was then implemented on manufactured goods, from wallpaper to textiles to ceramics (Daichendt, 2010). Design educators were prominent practitioners in the field; learning happened by transmission. Learners copied pre-existing forms until they exhibited skill mastery

(Thomson, 1997). Design education did not encourage personal creativity or personal artistic expression. In fact, schools replaced educators who encouraged personal creativity (Daichendt, 2010).

The Bauhaus

Against this backdrop where a design's value was in its economic production benefit and the designer's value was in his ability to engage in rote copying, emerged the school that has influenced art and design education more than any other institution, the Bauhaus (Elkins, 1992; Logan, 2008; Littlejohn, 2011; Bridges, 2013). Indeed, it was through the Bauhaus structure that, "modernist approach to visual education was developed." (Meggs & Purvis, 2006, p. 318).

Walter Gropius formed the Bauhaus in Germany in 1919 by merging the Weimar School of Arts and Crafts with the Weimer Academy of Fine Arts (Gropius, 1965). Gropius' vision for the Bauhaus, "integrated and recalled a philosophy with roots that extended back to medieval craft guilds; one that sought to bridge the gap that had developed between 'artist' and 'craftsman'" (Daichendt, 2010, p. 157). For Gropius, "handicrafts and industry may be regarded as opposite poles that are gradually approaching each other" (Gropius, 1965 p. 54).

The Bauhaus strove to energize the German economy through the joining of art and design, filling a practical market niche with skilled workers who had both a keen aesthetic sensibility and a practical knowledge of technology and production (Littlejohn, 2011). McCoy (1990) states, "The Bauhaus unified art, craft and design in a coherent philosophy and sense of identity" (p. 4). Design was no longer seen as inferior to fine art;

rather, the Bauhaus strove to, "elevate design as an intellectual endeavor on par with the fine arts" (Littlejohn, 2011, p. 22).

The Bauhaus Curriculum. Gropius wanted a practical curriculum and educational structure. Calling the fine art academy's Beaux-Arts pedagogy restrictive and mechanical (O'Sullivan, 2014) and producing learners whose work had no relevance to larger society, the Bauhaus School embraced the mission to "join art and industry, to unite in reality the theoretic and the practical" (Raleigh, 1968) and "...to educate men and women to understand the world in which they live, and to invent and create new forms symbolizing that world" (Bayer, Gropius, & Gropius, 1938, p. 29). The Bauhaus system was humanist in construction: though the Bauhaus acknowledged technology as a transforming agent of art and design, the Bauhaus viewed the individual and his or her vision of greater importance. Educators strove to expose learners to the full capability of technology yet maintained that the learners, rather than the technology, drive the design process (Lupton & Phillips, 2008). This humanist conception, elevating the individual's vision over technological constraints, continues to be relevant to contemporary studio pedagogy. Today, educators continue to navigate how to teach learners to be comfortable both implementing technology, and conceptualizing ideas in a manner that first serves their end users. As Chapter Four will show, using the internet to extend studio pedagogy is a way educators can build in both comfort and critical thinking when it comes to implementing technology.

The Bauhaus curriculum worked on three stages: preparatory instruction, technical instruction, and structural instruction. At the center of all stages was "bau" or "building" underscoring the Bauhaus commitment to aesthetics, production, and

community. Bauhaus educators believed that by using basic geometric elements to analyze form and construction, everyone could learn the underlying universal principles of design. These fundamental principles were what the Bauhaus faculty considered to be the common language for all visual communication and formed the preparatory stage of instruction (Gropius, 1965). In the technical instruction phase, learners first declared a creative focus from the fields explored in the preparatory year, and then worked with specialists from the field to gain required technical and skill mastery. In the cumulative, structural phase, learners entered the field by engaging in an apprenticeship. The Bauhaus strove to connect fine art and design, believing that ultimate synergy existed in a unified whole (Daichendt, 2010).

The Bauhaus featured a rotating faculty with differing interests and expertise. Many contemporary avant-garde artists became Bauhaus teachers alongside contemporary master craftsmen (Vossen, 2013). In contrast to previous paradigms where a single educator would teach learners, learners in the Bauhaus experienced a diverse set of instructional voices. Also, the Bauhaus featured a greater emphasis on peer-to-peer learning and critique, as all participants in the community offered vital insight into creative output. The studio space was the stable core amidst the rotating cast of educators and content. It is in the Bauhaus that the studio space itself and the creative community and pedagogy it fostered became perceived as the sacred physical space for design training (Brandt et al, 2008).

The Bauhaus Legacy in Design Education. The Bauhaus closed down in 1933 by the emerging Nazi movement who found philosophies of the Bauhaus too radical for comfort. Instructors from the Bauhaus fled Germany for other educational posts around

the world (Littlejohn, 2011). Fleeing educators brought Bauhaus ideals with them and so began to shape design education practices on a worldwide scale (Chen & He, 2013). Though it has been over one hundred years since the Bauhaus, the Bauhaus legacy of a codified curriculum and a high value placed on both the place and community of the physical studio space, still influences most art and design programs today (Salama & Wilkinson, 2007).

The Bauhaus in the United States. Several key faculty members, including Gropius, came to the United States. The Bauhaus ethos proclaiming that art and industry need not be separate was well received by institutions across the United States, leading to a paradigm shift of the alliance of graphic design with advertising and commercial art, to the alliance of graphic design with fine arts (Littlejohn, 2011). Because Bauhaus ethos equalized the status of designers and artists, it ennobled a facet of society that had never considered an artistic pedigree. Graphic design became capable of achieving the same ideals as fine art and the graphic designer's own voice and vision transcended his economic contribution.

This elevated status remains today in the United States where graphic design is often thought to be under the umbrella of fine arts (NASAD). In keeping with this shift, many aspects of the education of a graphic designer and the education of a fine artist are identical. For example, instruction most often occurs in a studio setting, projects rely on theoretical constraints and explorations rather than being based on direct industrial production, and learners begin with the personalized creative vision they feel best suits the needs of the project (Chen & You, 2008).

The first accredited graphic design program in a North America University was at Yale University in 1950 (Kelly, 2001). Housed in the new Department of Design, the sequential graphic design program presented graphic design as an applied/professional discipline. By formally separating graphic design from fine art, the Yale program opened the way for graphic design both to become its own discipline and become enfolded into formal academia (Kelly, 2001). The core full-time faculty of Yale at that time was European educated; many had ties to the Bauhaus (Kelly, 2001). Together they created a curriculum focused on graphic design for problem-solving and visual communication. Graphic designers learned visual theory and visual principles, while developing both "strong hand skills and perceptual sensitivity" (Kelly, 2001, p. 13). The Yale program was also influenced by Dewey's concept of experiential or workshop learning. Visiting critics and guest lecturers in the Yale program were professionals working in the industry, offering learners valuable insight and connections to the wider design world (Kelly, 2001).

At Yale, critique and project reviews were group activities, with several educators working together to create a communal discussion. The end of term assessment was also a formal panel review where each learner first presented his or her current portfolio to faculty members, and then received counsel and feedback on its progress. Instead of grades, learners received a pass or a fail. The studio space was in the basement of a building shared with architecture and the Yale Museum. In this studio space, learners spent the majority of their days alternating between printmaking, photography, and typesetting. The studio space was the fertile ground for the slow developing process of design. The Yale graphic design program experienced tremendous success, paving the

way for other universities both to develop their own graphic design programs and to view graphic design as a discipline in its own right (Kelly, 2001).

Strand 3: Contemporary Graphic Design Education

To understand studio pedagogy in contemporary graphic design education, it is helpful first to understand the studio pedagogy structure. Crowther (2013) states:

> The activities of the studio, in which a student is asked to create a new design, cannot be engaged with in a reproductive way with a shallow approach. The activities explicitly require the creation of an original design; a process in which students must analyze the context and synthesize that understanding with a range of theories and concepts to develop their own understandings; and to effectively create their own learning experiences (p.19).

Studio pedagogy is constructivist in nature, calling on learners to create meaning through project-based explorations, overseen by a more knowledgeable educator (Blair, 2006; Gray, 2013). Studios foster learning by instinct as well as learning by more traditional transmission methods (Logan, 2007). Through dynamic dialogue among all participants in the safe place of studio critique sessions, the educator and larger learning community illuminates the wide world of possible directions inherent in the process, and entrusts the learner's own discernment to enact the final vision that she feels is most compelling. In studio pedagogy, a learner is not taught to find the one correct answer; rather the emphasis is on process, exploration, and collaborative discovery (Hokanson, 2012).

Research into Studio Pedagogy

Studio pedagogy is the signature pedagogy (Shulman, 2005) of design education. Though formal research into design education and studio pedagogy overall is scarce

(Logan, 2007; Nottingham, 2014) there is limited research conducted on the following topics: how contemporary learners begin to assume a design identity through acquiring the "habits of mind" (Sims & Shreeve, 2012, p. 55) of a design professional, the studio critique process, and the importance of the studio as a place. This research, described below, further illuminates the phenomenon of studio pedagogy in contemporary graphic design education, framing the context of this research.

Studio as Signature Pedagogy

With its commitment to both a unique structure of learning and a dedicated space for practice, studio pedagogy is the signature pedagogy of design education (Crowther, 2013). Defined by Shulman (2005), signature pedagogies are those where "…novices are instructed in critical aspects of the three fundamental dimensions of professional work—to *think,* to *perform*, and to *act with integrity*" (p. 52). These dimensions occur through surface structures, deep structures, and implicit structures. In design education, surface structures consist of teaching the physical/technical acts carried out on a routine basis by a designer, deep structures consist of imparting how to think like a designer, and implicit structures imparts tacit beliefs, attitudes and values about design itself (p.55).

Though signature pedagogies are "marvelous scaffolds for complex behavior" (Shulman, 2005, p. 56), because they are so enmeshed in the identity of the profession and pass down from teacher to student, signature pedagogies are susceptible to "pedagogical inertia" (p. 57), perpetuating even when they no longer may best serve learners. It is this inertia that may underscore the pervasive thinking in design education that any separation of teacher and student in a geographic manner poses a grave threat to studio pedagogy, and renders design learning impossible (Kvan, 2001; Souleles, 2011).

Shulman proposes that, "only the most radical new conditions—such as sharp changes in the organization or economics of professional practice, or in the technologies of teaching—are sufficient forces to redirect that inertia" (p. 57). The third strand of this literature will examine these conditions and changes.

Assuming a Design Identity. Siegel and Stolterman (2009) call design education a "metamorphosis" (p. 1) where learners must persist and progress through a "*penetration of barriers*—intellectual, practical, psychological and social" (p. 3). Studio pedagogy endeavors to "form habits of the mind, habits of the heart, and habits of the hand" (Shulman, 2005, p. 59) and "draw forth the personal voice of each individual while, at the same time, connecting the student to the broader profession and specialization" (NASAD, p.20). Because design knowledge involves an embodied phenomenon, it is only when one assumes an ontological sense of identifying oneself as a designer that one is able to enact design knowledge. Knowledge resides in the embodiment itself (Groth, 2016).

McDonnell's exploration into how a novice designer understands "what becoming a designer entails," (McDonnell, 2016, p. 10) reveals an educator's interactions with the learner within the midst of the learner's own design process is catalytic. Effective educators view "interactions with the students and their work as *opportunities* for the student designers to learn about designing and as *invitations* to explore their own stances" (McDonnell, 2016, p. 10). Schön posits that within studio pedagogy, educators instruct by modeling reflective process and dialogue with the learner's own work. The reflective dialogue allows both educator and learner to engage and analyze how each step might influence the final product. The dialogue also allows the educator to pass on tacit

knowledge to the learner, helping the learner understand the reasoning behind each design decision, illuminating both the how and the why of design practice (Schön, 1983).

Assuming a designer identity also involves learning the language and semantics of design so one can participate in the larger professional discourse. Logan (2007) identifies design education as being based on a metaphorical as opposed to an analytical discourse. In this way, the goal of studio pedagogy is to gain mastery of specialist knowledge. Logan (2007) notes that because specialist knowledge is "metaphorical and allusive" (p. 15) it is best acquired through intense immersion in the studio experience.

Studio Critique. Equal parts reflective and iterative, critique is and has been a pillar of design education (Shulman, 2005; Blair, 2006). The process of studio critique begins with a learner presenting work to a panel of educators or other learners. During this presentation, the learner describes project background, outcomes, and creative process. After presenting, the learner receives feedback and either uses that feedback to continue work on the project or notes it for implementation in a future project. As learners must discuss their process and find ways to communicate how their artifact best expresses their own creative vision, critique can be one of the best ways to acculturate learners into what it means to be a designer (Hokanson, 2012). Schön praises the dialogical aspect of all critique and the beneficial ways a more experienced educator, while explaining possible additions to learner work, uses reflection-in-action to describe his or her own process to a student. Learning by discovery fosters an emergent vision within the learner (Schön, 1983).

The two main variations of critique are formative and summative (Blair, 2003; Hokanson, 2012; Gray, 2013). Though both manifest themselves in unique ways based

on the culture of a particular studio, they share a common commitment to dialogue and process exploration. Formative critique or critique-in-process occurs in the midst of a project. During formative critique, the learner shares thinking and direction and is free to ask for feedback on particular elements as desired (Blair, 2006). Formative critique is a time where learners can see their work through another's perspective and then use that knowledge to recalibrate their own intentions. Formative critique can also happen between a single learner and educator. Also known as a "desk critique" these sessions have a more intimate and conversational feel (Blair, 2006; Nottingham, 2013). Formative critique offers the learner valuable reflection-in-action as he or she analyzes and assesses in-progress work, in light of the desired outcomes of their creative endeavor (Schön, 1983).

Summative critique happens at the end of a project. Summative critique generally consists of a learner describing his or her complete process and revealing how his or her final artifact has embodied desired outcomes. The audience has the opportunity first to question the learner on the work presented and inspirations undergirding it, and next to give feedback on overall reception. Summative critique offers the learner valuable reflection-on-action as they analyze and assess the outcomes of his or her creative endeavor. (Blair, 2006; Gray, 2013; Schön, 1983).

The Academic Design Studio Space. Besides being a pedagogical practice, in contemporary higher education, the studio also refers to the physical design studio, the main place where learning occurs (Broadfoot & Bennett, 2003; Crowther, 2013). Studio spaces are often large rooms with mobile furniture and no structural hierarchy. The configuration encourages active learning and active engagement (Smith Taylor, 2008).

As work gets pinned up to walls and learners gather for project critiques and feedback, the studio space itself can become a vital non-human actor in the design education process (Bender & Vredevoogd, 2006; Kelly, 2001; Logan, 2007; Nottingham, 2014). Nottingham (2014) notes, "Seeing and interacting with others in studio spaces is thought to be important to learning how to design, to the extent that the design studio has become a protected piece of the design school curriculum" (p. 22). In the design studio, learners gain both the practical skills as well as the unspoken implicit structure of being a designer (Shulman, 2005).

Critics of Studio Pedagogy

Critics of studio pedagogy call it a space of unfair power structures and a space that accepts and even promotes methods that have proven to be unsound teaching practices (Dutton, 1987; McCarthy, 2010; Swann, 2002). Dutton (1987) writes that learners not so much develop a unique identity as a designer as they become indoctrinated with the hidden curriculum of design education—a curriculum more about competition and winning approval, than using critical thinking to engage with ideas. Far from encouraging open collaboration and in-process dialogue, Argyris and Schön (1974) found in studio dynamics, "…students do not utilize each other as resources as much as they could. One reason is the common fear that other students will steal their ideas. An unwritten rule among students is that they stay away from each other's work, at least until its authorship is established…Students worked alone during creative moments" (p. 657-658).

Though a hallmark of studio pedagogy is student-centered, open ended projects, the overseeing educator can move from the role of guide or facilitator to one of

dominating force, proclaiming all outcomes outside a narrow range wrong or ill conceived. Because an educator's personality and personal aesthetic values provide very formative structure to the studio space (Salazar, 2013), a learner can become dependent on the educator and lose confidence in his own voice and creative vision (Boyer & Mitang, 1996).

Regarding critique, learners can feel anxiety presenting their work in front of accomplished professionals and speaking about their process. Because learner's receive little coaching on the critique process, the feedback received in a critique setting can be hard to filter from personal attacks (McCarthy, 2010). Webster (2007) and Anthony (1991) note that students often view critique more as a strategic endeavor that requires mastery of an elaborate guessing game about what the reviewer might want to see rather than as a personal learning experience. Critique can be destructive to promoting a designer identity as, "students who successfully engage in the performance of the critique become a member of the fraternity, but those who cannot find a way of participating become isolated and alienated from the discourse" (Percy, 2004, p. 151).

One solution suggested by Dutton (1987) is experimenting with shifting studio pedagogy more toward a transformative pedagogy that addresses the often "maldistribution of power" (p. 19) that occurs between learners and educators. This happens through implementing the following shifts: allowing learners to have input in their grades through self-assessment, decentralizing the position of the educator from the obvious studio leader, encouraging greater levels of peer-to-peer learning, and allowing learners to be more self directed in choosing projects to pursue that align with their own interests. As Chapter Four will show, many of these shifts occur when educators use the

internet to extend studio pedagogy. In this way, using the internet to extend studio pedagogy may be a means to address many issues raised by those who are critical of studio pedagogy.

Changes in Design Practice, Changes in Design Education

The Digital Revolution. The digital revolution, including the rise of diverse computer hardware, software, and the internet, shifted the landscape of professional graphic design in a fundamental manner (Bridges, 2013; Drucker & McVarish, 2008). In 1984, the wide release of the Macintosh computer began to shift design production from analog to digital methods (Fleischmann, 2013). Assets of design such as typefaces, imagery, color, etc. began to become abstracted, moving from physical materials to binary machine code. This shift toward digitization and the removing of materiality enabled whole new levels of manipulation and mutability in design production. This shift brought designers "unprecedented involvement with every aspect of production" (Drucker & McVarish, 2008, p. 323). Before, designers had to rely on various specialists to supply material for each part of the design process. Now because all assets shared the common language of code, through digital techniques, designers developed the capability to act as photo manipulators, typesetters, paste-up artists, and compositors (Fleischmann, 2013). The emergence of the networked-enabled digital infrastructure of the internet created potential for a before unknown level of global interconnectedness and decentralization within design. Designers are embracing an ethos of location neutrality with the philosophy, "if you have a laptop, if you have an internet connection....you have a studio" (Madundikwa, 2016).

This change in working location from traditional studio spaces to greater non-traditional workplaces requires graphic designers to develop skills in distance collaboration and long-distance partnerships (Morley, 2016). Being skillful in collaborative technology is a logical requirement for successful distance design collaboration. Besides being skillful in technology, Buirge (2013) also found that critical to project success is the "human factor" (p. 5). Graphic designers who succeed must exhibit high levels of self-regulation, have clear written communication skills, and have good time management skills that often include connecting with clients or team members who are in disparate time zones (Morley, 2016). Richburg (2013) cites that because design is an iterative process, developing effective communication patterns that keep all stakeholders updated is key for successful distance-mediated design endeavors. In a decentralized design environment, an atmosphere of high communication helps nurture trust, ensuring graphic designers can project their voice and vision even though not co-present in a physical manner (Morley, 2016).

The Democratization of Design. Fleischmann (2013) posits that though graphic design practice was altered by the digital revolution, it is the wider democratization of technology and the implementation of participatory digital media that "brought a paradigm shift requiring new ways of thinking, and the development of new design knowledge and skills" (p. 126). By democratizing the tools for graphic design making from the exclusive domain of professional designers to being accessible for anyone who owns a computer or mobile device, "everyone can be a designer" (Fleischmann, 2015, p. 101). This shift means graphic designers were (and still are) grappling with what distinguishes the tools of design from the skills of design (Drucker & McVarish, 2008, p.

326). The traditional understanding of how design has been "practiced, taught, and learned" (Fleischmann, 2015 p. 101) is being challenged. The internet has now enabled a higher level of design awareness than ever before, and this has changed the design landscape (Shaughnessy, 2013). Shaughnessy (2013) posits that for professional designers to survive, they must function more as collaborators and co-creators rather than as one-stop visual image suppliers.

Participatory Digital Media. Digital media is media produced for exclusive presentation on or in screen-based environments (often in the form of mobile devices). Digital media shifts the role of audience from one of a passive observer of information to one of a curator of endless options and choices (Flew, 2008). In the past, designers were responsible for creating static messages in print media, broadcasting ideas and ideologies to an audience who received in a passive manner (Drucker & McVarish, 2008). In this paradigm, designers did not have to consider how to manage design in a conversational space. Though designers are still responsible for print media, today designers are creating dynamic messages for an audience who is becoming participatory (Fleishmann, 2015). Rather than providing audiences with a static artifact, designers are creating the conditions for production or the "conditions of use" (Drucker & McVarish, 2008, p. 338) and so becoming collaborators with the audience. This shift calls on designers to focus on creating larger scenarios of interaction and user behavior—extending design to "coordinate multiple behind-the-scenes tasks in constantly changing systems" (Drucker & McVarish, 2008, p. 337).

Changes in Pedagogy. Because design education aligns to design professional practice, rapid shifts in technology implementation, the democratization of design and the

greater implementation of digital media also impact design education. In response, design educators are beginning to question both the curriculum and the context of studio pedagogy (Davis, 2008; Park & Benson, 2013; Vining, 2007). Richburg (2013) calls for a design curriculum that will allow learners to experience interactions with diverse inputs from design educators. Fleischmann (2015) identifies the following three items as "significant changes" which are impacting studio pedagogy, design education, and the larger design profession:

1. Design programs are being forced to accommodate larger class sizes thus educators are teaching in a one-to-many as opposed to the traditional one-to-one studio pedagogy method.
2. Technology is bringing about a larger democratization of design where everyone and anyone can be a designer.
3. Technology is bringing about a larger democratization of learning where anyone with access to the internet can learn basic design skills and software competencies.

These changes prompt the following questions:

1. How does studio pedagogy evolve in a decentralized format?
2. What differentiates a professional designer when the capability to make a design piece is accessible to both professional and amateur designers?
3. How can educators ensure that learners balance technical, software skills with critical and creative thinking skills?

Because graphic design has shifted from a simple system where it was possible to know and control all variables of the process, to a diverse ecosystem where design is co-

constructed by both the designer and the audience, it is no longer enough to teach current graphic design students in the traditional print-centric curriculum (Davis, 2008; Fleischmann, 2015). Rather, Fleischmann (2015) sees these changes as ones that "urgently require an innovative approach to redesigning the existing design curriculum and/or involve incremental change" (p. 126). Swanson (1994) agrees, writing, "design teachers should teach basic principles of form and communication but are they, by teaching what they were taught, teaching the graphic designers of the twenty-first century how to be mid-twentieth century graphic designers?" (p. 58).

Moving the Design Studio Online. Integrating greater use of online practices into studio pedagogy may be one way to help support this shift and curriculum redesign (Pektas, 2015; Souleles, 2011). Pektas defines online studio spaces as, "…a type of studio that investigates possibilities offered by digital media and virtual environments to expand studio space beyond physical and time limits" (Pektas, 2015). About online studio practices, Pektas (2015) writes "the new aim of studio teaching ought to be that of teaching for the design of distributed intelligence…the use of new participatory tools allows for many-to-many interaction, which corresponds better to the new modes of design practice" (p. 258). The online studio merges studio pedagogy with the internet and the educator is a guide and co-facilitator in learning (Pektas, 2015).

Lotz (2015) points out that when studio pedagogy moves from "proximate to online worlds" (p. 2) peer interaction and peer-to-peer learning have the potential to influence knowledge acquisition as much or more than the educator who has been the all-knowing expert in studio pedagogy. In this way, learners exposed to online studio spaces have the capability to develop and make use of both their own expertise, and the expertise

of their peers. When learners are comfortable with navigating a decentralized learning structure during their education, they have the potential to widen their own skill spectrum. Indeed, because professional graphic designers work in spaces of high network connectivity—often with clients in other countries and collaborators from other sectors—studio pedagogy may be at its best when built with a decentralized, distributed structure, and incorporates online studio practices (Pektas, 2015). Pektas' research on learner perception of learning within a blended design studio—which merged traditional face-to-face studio pedagogy with several internet-based collaboration tools—revealed that learners reacted in a positive manner to the online studio. Learners felt that the online shifts in the studio helped them develop collaboration and negotiation skills that will be useful for future professional practice (Pektas, 2015).

Summary

As shown in this literature review, literature exists calling for greater investigation into the ways emergent/remix technologies and web-based social interactions can integrate into the design curriculum. Literature also exists calling for greater investigation into how studio pedagogy and online learning can be better reconciled. While many educators note the need for greater investigation of curriculum changes and delivery of studio pedagogy, there is a gap in understanding how educators are using the internet to extend studio pedagogy. This study addresses these knowledge gaps. By adding to the research on design studio pedagogy, this study will provide valuable information for educators who are seeking to create an informed approach on changing and updating their current curriculum.

Chapter 3: Methodology

This study explored how graphic design educators are using the internet to augment and extend studio pedagogy in graphic design education. The previous two chapters provided a background to the study and a review of the literature surrounding the study. Building on this background, the chapter continues with an explanation of qualitative research and constructivist grounded theory, the chosen research methodology. An explanation of the research design follows including: research questions, participant recruitment, data collection, data analysis, and reflexivity on the role of the researcher. This chapter concludes with a discussion of methodological rigor including: validity, feasibility, and ethical considerations that guided the study.

Qualitative Research Overview

Research design should flow from epistemology, theoretical perspective, methodology, and methods most appropriate for elucidating the desired knowledge (Creswell, 2013; Crotty, 1998). The goal of this study was to create an in-depth understanding of the process of how educators are using the internet to augment and extend studio pedagogy. A qualitative approach was most appropriate for this study because qualitative research facilitates a focused exploration of social actions and processes from the collection of data within the contexts from which it emerges (Denzin & Lincoln, 1994). Strauss and Corbin call qualitative research "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss and Corbin, 1990, p. 17). Qualitative research acknowledges the complex, ever-changing nature of the world, calling on the researcher to be open and nimble and approach the data with minimal preconceived ideas or directions (Creswell,

2013). Willig (2008) notes that qualitative research endeavors to explicate and explain a phenomenon, not predict action or anticipate behavior. Concerned not so much with cause and effect relationships, qualitative research rather strives to explore the quality of the experience from a plethora of unique human perspectives. In this way, qualitative research provides an appropriate structure to discern the unique pedagogical motivations of graphic design educators and how motivations may relate to one another and shape the educational experience.

It is important to note that because I am seeking to create a better understanding of online studio pedagogy based on expressed participant experiences, an exclusively qualitative-based research approach is most appropriate and this study did not use any quantitative research methods in data collection or analysis. Quantitative research methods prioritize gathering numerical data and generalizing it to explain a phenomenon. The goal is determining a relationship or establishing causality by defining associations amongst elements and testing variables. In addition, quantitative research methods are often used to test a pre-existing hypothesis or theory (Babbie, 2010). Given the focus of the research, some quantitative information such as institutional profiles or educator demographics could have been incorporated but the research questions this study was asking were not amenable to any specific quantitative analysis. However future research could explore and validate this model through a more quantitative approach.

Qualitative Research and Studio Pedagogy. The studio-learning environment is constructivist—one that values intuition and exploration (Blair, 2006; Gray, 2013; Hokanson, 2012). The design studio is a subjective place where participants backgrounds, inform their creative output and participants share their unique perspectives through the

critique process (Anthony, 1991). An iterative process of discovery drives design. Qualitative research too places high value on constructing meaning along with research participants through an iterative process of data collection. Rather than seeing phenomenon in singularity, distilled by analyzing cause and effect variables, qualitative research sees phenomena in complexity and strives for an understanding based on expressed participant experiences. Many of the characteristics of studio learning are also characteristics of qualitative research, making qualitative research and investigation into studios a cohesive match.

Giving Voice and Empowering Participants. Because qualitative research has a strong emphasis on human connections and data gathering emphasizes communication within naturalistic settings, qualitative research is effective in giving voice to participants and "empowering people to be heard who might otherwise remain silent" (Bogdan & Biklen, 1998, p.204). Participants express the facets of their experience they feel are most important in a manner that is in-depth and personal. By creating an atmosphere that allows research participants to “free the authentic voice from whatever restrains it from coming into being” (Mazzei & Jackson, 2009, p. 1), the qualitative researcher opens insight into unknown or overlooked experiences.

Though there have been calls to redefine the studio pedagogy model in the presence of both greater technology integration, and the shifting landscape of professional graphic design practice, there is a lack of literature on what emerges when studio pedagogy shifts to a place of greater online delivery (Nottingham, 2014). Because extending graphic design studio pedagogy via the internet is largely unexplored, the voices of educators who are choosing to extend studio pedagogy have remained largely

silent in the accepted narrative of graphic design education. This void means that the traditional narratives continue to dominate in graphic design education. The lack of design educator voices in the online learning sphere has led many educators to be skeptical of online learning theories and principles. These educators think because these theories have developed in disciplines whose pedagogy is unlike the studio, they have little relevance to studio pedagogy practice (Hunt, 2015). In this study, educators' experiences were a point of strength. Participant sharing allowed a robust understanding of the phenomenon to emerge.

Grounded Theory

Qualitative research includes a diverse set of research methods including (but not limited to): narrative research, phenomenology, grounded theory, ethnography, and case study (Creswell, 2013). The chosen research method should both align with the study's purpose and, because the researcher is the main instrument of data collection, remain consistent with the researcher's own epistemological stance (Creswell, 2013). With this in mind, this research study used grounded theory as its research methodology.

Background. Reacting against the pervasive positivism of the time in social science, sociologists Barney Glaser and Anselm Strauss developed grounded theory to encourage research to move more from data collection to theory generation (Birks & Mills, 2015). Glaser and Strauss challenged the notion of research being able to uncover universal explanations of social behavior, favoring instead the ideas of pragmatism and symbolic interactionism, which hold that scientific truths emerge through "the ongoing interpretation of meaning produced by individuals engaged in a common project of observation" (Suddaby, 2006, p.633). By observing the contrast that happens between the

reality, and interpretation of reality by participants, Glaser & Strauss postulated that a substantive theory emerges (Suddaby, 2006).

In their seminal 1967 book, *The Discovery of Grounded Theory*, Glaser and Strauss prescribed a method for data collection that used inductive reasoning. This method allows a theory of behavior or practice to emerge out of the specific context from which it develops. In this way it is "grounded" in the data and context itself (Willig, 2008). Grounded theory is an interpretive process and focuses on “the actual production of meanings and concepts used by social actors in real settings” (Gephart, 2004, p. 457). In grounded theory, theory is a “set of well-developed categories interrelated through statements of relationship, to form a theoretical framework that explains some phenomenon” (Corbin & Strauss, 2008, p. 55).

Grounded theory is “particularly effective at understanding the processes by which actors construct meaning out of intersubjective experiences” (Suddaby, 2006, p. 4). In this way, grounded theory supports the interpretive approach of the research questions, which are seeking to produce a description of the experiences of educators who are using the internet to extend their studio learning spaces within graphic design programs. With its ability to synthesize actions and interpretations, grounded theory is an appropriate method used in situations where no theoretical framework currently exists (Corbin & Strauss, 2008). As Nottingham (2014) notes, graphic design online studio pedagogy lacks a research framework. Richburg (2013) concurs, calling for a new studio pedagogy that does not aspire to replicate traditional studio learning elements, rather utilizes the unique opportunities of the internet as a “broader gateway to knowledge in the professional world, from people in other locations, and from other disciplines within the

university" (p.12). This knowledge gap makes grounded theory an ideal method to first examine how educators are augmenting and extending studio pedagogy using the internet, and next build a substantive theory to aid future educators.

Variations. Since Glaser and Strauss first codified grounded theory, it has undergone various transformations and alterations. It is now thought that there are three main versions of grounded theory practiced: classical grounded theory, straussian grounded theory, and constructivist grounded theory (Birks & Mills, 2015). To help clarify and provide navigation amongst the many variations of grounded theory, researchers must, according to Tan (2010), answer appropriate questions, seen below, regarding literature, methods and methodology, and what counts as grounded theory.

- What counts as grounded theory and what does not?
- Should the literature review occur pre, post, or in tandem with data collection?
- Which version of grounded theory is being invoked and what are the accompanying methodology and methods?

Constructivist Grounded Theory

This study used Charmaz's constructivist version of grounded theory. The most recent variation of grounded theory to emerge, constructivist grounded theory is a version of grounded theory first outlined by one of the original learners of Strauss and Glaser, Charmaz (Kenny & Fourie, 2014; Charmaz, 2000). Charmaz (2006) defines constructivism as:

> …a social scientific perspective that addresses how realities are made. This perspective assumes that people, including researchers, construct the realities in which they participate. Constructivist inquiry starts with the experience and asks

> how members construct it. To the best of their ability constructivists enter the phenomenon, gain multiple views of it, and locate it in its web of connections and constraints. Constructivists acknowledge that their interpretation of the phenomenon itself is a construction (p. 187).

According to Charmaz "constructivists study *how*—and sometimes *why*—participants construct meanings and actions in specific situations" (p. 130). As my main research question seeks to investigate how educators are using the internet to extend studio pedagogy and my research subquestions seek to reveal greater insight into why educators are choosing to extend studio pedagogy in this manner, constructivist grounded theory is a logical research match.

Charmaz builds on Strauss and Corbin's approach to grounded theory by applying a constructivist framework and "actively repositioning the researcher as the author of a reconstruction of experience and meaning" (Mills, Bonner & Francis, 2006, p. 2). Constructivist grounded theory sees theory as derived from an "imaginative understanding of the studied phenomenon" (Charmaz, 2006, p. 126) and works from a place situated as close to the experience as possible (p. 130). The researcher's own viewpoint and background are not something to discard to achieve "tabula rasa" (Thompson, 1997) rather the researcher's viewpoint and background becomes integral to the theory generated (Charmaz, 2006, p. 130).

Because Charmaz (2006) postulates that, "we construct our grounded theories through our past and present involvements and interactions with people, perspectives, and research practices" (p. 10), my own experiences as a graphic design educator will provide a basis for connecting to study participants, and also aid me in interpreting their

responses to the questions of how graphic design educators are extending the studio. Though my own past experiences could present a hindrance and a way that bias will enter research, because constructivism emphasizes interpretation created between participant and research, as long as I am reflective and aware of my own potential bias, my own background will be an asset, enabling me to better connect with participants. In addition, because its emphasis on social processes and knowledge co-construction in theory creation has much in common with studio pedagogy, it is both a good fit for my own background as a researcher, and a good fit for engaging my research participants who are design educators.

Theoretical Perspective

This study will invoke Symbolic Interactionism (Blumer, 1962) as its theoretical perspective. Symbolic Interactionism addresses how individuals attribute meaning to objects, situations, elements, and relationships. Blumer (1962) posits that unlike traditions that hold meaning is inherent or meaning is a personal psychological construct, Symbolic Interactionism sees meaning as “arising in the process of interaction between people” (p. 4). Meaning is a social product and people define meaning in relation to how they perceive other people react surrounding the object, situation, or action being undertaken.

Symbolic Interactionism is a framework that understands human behavior and social life through an interpretive lens. As in the Bauhaus framework where together the studio community developed a shared visual language through the synthesis of the traditional fine art practices with traditional craft practice (Winton, 2016), in Symbolic Interactionism "individuals order and make sense of their world according to shared

meanings which they develop through a process of interaction and convey by the reflexive use of symbols" (Bartlett & Payne, 1997, p. 184). Social interaction both expresses and shapes humanity as articulated through Blumer's (1962, p.2) three basic assumptions:

1. Humans act toward things on the basis of the meanings that these things have for them.
2. The meaning of such things derives from, and arises out of, the social interaction that one has with one's fellows.
3. Meanings are handled, and modified through, an interpretive process used by the person in dealing with the things he encounters.

Reality, society, and self are all interwoven in dynamic social interaction not understood apart from one another (Charmaz, 2014). This too reflects the Bauhaus philosophy that foundational principles and a commitment to aesthetics, production, and community undergird all creative practices. To understand a phenomenon, Symbolic Interactionism calls for research methodologies that enable the "putting of oneself in the place of the other" (Crotty, 1998). Occupying the role of another happens via language through the dialogic sharing of emotions, attitudes, perceptions, and feelings. By choosing to view this research through a theoretical perspective of Symbolic Interactionism, I am choosing a lens through which to examine the phenomenon, narrowing my research field of vision, and acting to filter both my research methodology and methods (Crotty, 1998).

Additionally, Symbolic Interactionism posits that meaning emerges only within the context of relationships, modified by personal interpretations. Identity is unfolding

and developing based on relational interactions with the world. This fits the tenets of constructivist grounded theory, which sees meaning as being co-constructed and iterative. Indeed, Charmaz (2006) embraces Blumer's three basic assumptions and adds the following additional premises to Symbolic Interactionism as it relates to the co-created and iterative nature of constructivist grounded theory:

- Meanings are interpreted through shared language and communication.
- An emerging processual nature distinguishes the mediation of meaning in social interaction (p. 25).

The previous sections in this chapter provided an overview of how a qualitative research scheme in general and grounded theory in particular is the most appropriate research methodology for the study. Beginning with an in-depth analysis of the research questions, the remainder of this chapter will unpack the research design and methods employed for the study.

Research Questions

Emerging from the research purpose statement, research questions narrow the research scope and both direct and inform the data gathering strategies implemented within a study (Creswell, 2013; Littlejohn, 2011). Keeping in mind that qualitative research questions are "open-ended, evolving, and non-directional" (Creswell, 2013, p.138), my primary research questions is: How are graphic design educators using the internet to augment and extend studio? The purpose of this question is to explore how educators use the internet to augment and extend studio pedagogy. The following subquestions will also guide the study bearing in mind the emergent nature of grounded theory:

1. What pedagogical impact do educators perceive come from extending studio pedagogy via the internet?
2. What influence does professional graphic design work experience have on the ways educators use the internet to extend studio pedagogy?
3. How does augmenting the studio via the internet alter the educator experience of studio pedagogy?
4. How are institutions supporting efforts to use the internet to augment and extend studio pedagogy?

Data Collection Overview

Though grounded theory strategies have a robust and well-defined procedural specificity, when engaged in grounded theory it is important to remain flexible while gathering data, remembering that grounded theory is an interactive, iterative process (Charmaz, 2006). Theory emerges from the interplay of the application of procedures and researcher creativity (Urquhart, 2012), with the core goal being to develop analytical theories with interpretive power (Charmaz, 2012). From these theories, emerges a better understanding of a complex social process (Suddaby, 2006).

Data collection in this study occurred via solo, unstructured interviews, via focus groups, and via memos. Combining these methods together allowed me to gain access to educator's individual ideas and experiences, as well as gain insight into the group dynamics that occurred when all educators were able to discuss ideas together. Data collection took place between June and November of 2017. All participants were interviewed once, and seven participants took part in focus groups. Interviews and focus groups were both recorded, and each was an average of 60 minutes.

Participant Selection Criteria

Participant selection for this study occurred using purposive sampling. Considered to be one of the fundamental features of grounded theory, purposive sampling is the "intentional selection of information-rich cases whose study will illuminate the central questions of the research" (Patton, 2002, p. 230). Participant inclusion criteria included the following two elements:

1. Educators affiliated with colleges or universities that deliver content within the context of brick and mortar campuses.
2. Educators who are augmenting and extending their studio learning spaces using the internet in graphic design programs.

Inclusion criteria strove to identify educators who were blending both face-to-face and online teaching practices, bridging the world of traditional face-to-face proximate studio pedagogy, and the emergent world of studio pedagogy enacted in an online environment. This study excluded educators who taught in programs delivered fully online, not because their experience of extending studio pedagogy via the internet might be less important, but rather because the scope of this study is looking to investigate the experiences of educators who are extending and augmenting studio pedagogy using the internet, rather than those who are fully enacting studio pedagogy using the internet.

Participant Recruitment Process

Because I am an active design educator, I recruited the initial sample of interview participants through my own professional peer network. Given the narrow scope of the field within which this study occurred, it was necessary that I interview people I met through conference attendance/mutual acquaintances or were otherwise familiar with in a

professional capacity. Though beginning the interview process with these participants could be viewed as an ethical constraint of the study, this familiarity is actually a strength of the work. Familiarity ensured that interviews occurred with people who are working directly in this unique area and thus who can provide insight into the research questions, which guided this study. In addition, full participant inclusion and exclusion criteria as well as sampling scheme were outlined and cleared by the Athabasca University Research Ethics Board before data collection began, again ensuring proper ethical considerations were in place. The approved ethics application can be viewed in Appendix C.

I initiated the recruitment process by sending potential participants a brief overview email describing the study with my formal introductory letter attached. A copy of the formal letter is in Appendix A. To reduce the risk of overstepping professional boundaries or otherwise coercing participants with whom I had a pre-existing relationship, I assured all participants that participating was voluntary and refusing to be part of my study would have no negative repercussions. If participants expressed interest in being part of the study, I emailed them a digital consent form, ensuring I had their consent to record video, audio, or both during an interview or focus group. After receiving the consent form, I set up an interview with each participant. All interviews occurred via Zoom videoconference software.

At the conclusion of each interview, I asked participants if they knew other educators who might be good candidates to take part in the study. If participants acknowledged that they did know of other educators who might be a good fit, I asked participants to introduce me to them via email. Communicating via email allowed me to

assess potential participants to ensure that their experience would be a good fit for the study. This assessment became especially important in the latter stages of the study when engaged in theoretical sampling.

I recruited all focus group participants from participants whom I had interviewed. I only asked if participants would like to take part in a focus group after we completed an interview. In this way I was able to gain better perspective on participants, learning about their background and communication style. I used this information to compose focus groups, ensuring each group contained members who had enough commonalities to build rapport yet enough differences to learn and challenge one another.

Participant Characteristics

In total, 18 individuals participated. Participants came from seven countries, affiliated with academic institutions located on four continents. Participants were from a variety of institution types, from specialized art schools to large universities, liberal arts institutions to technical training colleges. This diversity brought an interesting mix of perspectives amongst participants, and gave me as the researcher a unique perspective on both the variance and similarity of design education in a worldwide context.

Data Collection Methods

Solo Unstructured Interviews. Unstructured interviews are a way to gain insight into complex human behaviors and phenomenon without forcing any predetermined categorization, which might limit the scope of the research inquiry (Punch, 1998). The researcher comes to the interview without a preconceived hypothesis or a theory to test and interviews unfold according to the "natural flow" (Zhang & Wildemuth, 2009, p. 2) of conversation. Zhang and Wildemuth praise unstructured interviews for their ability to

expose researchers to unanticipated themes and generate data with diverse structures and patterns (p. 2). A loose protocol enables the participant's response to guide the discussion and a deeper understanding of their point of view to emerge (Corbin & Strauss, 2008).

Unstructured interviews can create spaces of unique intimacy (Corbin & Morse, 2003). This intimacy, fostered both by focused listening on the part of the researcher and a high level of control entrusted to the participant, allows participants to be especially candid and open in sharing their stories (Corbin & Morse, 2003). This openness in turn allows the researcher to explore and experience participants views, feelings, intentions, and actions, as well as the contexts and structures of their lives and with them, co-create meaning (Charmaz, 2006, p.14).

Interview Procedure. The purpose of these one-to-one interviews was to understand how educators construct their motivation for extending studio pedagogy, and how they perceive institutional and learner reaction to their choices. Participants, who were all design educators, were well positioned to reflect and speak on their experience of this phenomenon. Because I wanted to avoid the risk of any power imbalances, I strove to make participants feel comfortable and at ease. This included taking the following measures for each interview: scheduling the interview at a time most convenient for the participant, offering the participant early access, and if necessary, technical support in using Zoom. I reiterated to participants that all data was in a secure, password protected digital space, and that their names and personal institutional affiliation would not connect to the transcripts used for data analysis.

A loose protocol guided each interview. The interview protocol began with a brief introduction. In the introduction, I reiterated the purpose of the study, recapping the

history of traditional graphic design education, highlighting points in its progression, and bringing us to the present day space of current practice. I then assured each participant I was not going to be directive in questioning them, rather I wanted them to talk in a candid manner about their own story, including their academic and professional design experience, their pedagogical motivations, and their ideas and dreams for their learners and their program. After the introduction, and as a way to better enter each participant's world, I encouraged all participants to tell me about their institution in general and their program/studio teaching practice in particular. This allowed participants to set the stage for their own practice. Hearing the tone and language participants used about their academic environment helped me get a sense of each participant's feeling about their institutional situation.

From there, interviews unfolded in a conversational manner, covering ways the participant uses the internet to extend their studio, participant's perceived learner and colleague reactions, institutional support, and the participant's professional working experience in graphic design. Most participants progressed through each topic area with little prompting. When participants began to veer into a topic or story that did not seem relevant, I would give them a gentle nudge back on course by asking a question or asking for further clarification. Upon the interview's conclusion, I thanked each participant for meeting with me and for the honor of hearing his or her story. I also reminded each participant that I would be transcribing the interview and sending it within a week so they could add any further comments or make any necessary clarifications.

Though the central research question guided each interview, interview cadence varied between participants. Some participants began talking almost immediately and

continued on for the majority of the hour, sharing about their own professional background, tools they use, student reactions, teaching philosophy and institutional culture. Other participants looked to me to prompt them with specific questions and guide them through each topic in a directive manner. As each interview was in process, I strove to be aware of what might be most comfortable for each participant and adjust my own presence. If I sensed that I was doing too much talking or asking questions in a rapid-fire manner that did not allow adequate pauses for participants to reflect, I would slow down and adjust the pace so my own voice was not dominant. This learning was something that happened through my own iterative process of interviewing as I gained greater comfort with trusting the process and myself in it.

As I allowed participant's response to my general questions and topics to guide the discussion, I paid particular attention to language participants used to express themselves, often mirroring the participants own language back to them and asking them to further clarify and define concepts/terms. As Blumer (1986) notes, meaning derives from social interactions between people. Indeed, "…meaning of a thing for a person grows out of the ways in which other persons act toward the person with regard to the thing" (p. 4). The primary way this occurs is through language. Language is both a product of our social experiences and informs our experiences of the world. How one chooses to describe a phenomenon reveals the framework of how one perceives and understands it. In this way, my own understanding of the phenomenon grew out of the ways in which participants spoke of the phenomenon. Because my participants and I both share similar backgrounds there was a risk that we could make assumptions about shared meaning. To ensure that we were both clear on meaning and language, I asked a variety

of follow up questions on topics that participants brought up. Also, I often asked participants to share specific examples to further add context to their responses.

Though following the unique ebb and flow of each participant required intense focus on my part, the loose structure seemed to both foster a dynamic trust between each participant and myself, and reveal many unanticipated themes. The intimacy of this former element especially was instrumental in allowing me to gather rich data as participants shared their perceived successes and their perceived shortcomings as design educators. Charmaz (2006) speaks of constructivist grounded theory creation being an active element, interwoven and constructed between participants and researcher. The dynamic constructed nature became clear to me through each interview.

I transcribed each interview verbatim, generalizing any identifying participant information to preserve anonymity. Listening to each interview multiple times during the transcription process allowed me to immerse myself in the data. In addition to facilitating deeper understanding of each interaction, this immersion also helped me reflect on and tailor my own interview style and skills. After completing transcription I listened to the audio recording and read the transcript one more time to ensure completeness.

Focus Groups. Because they give the researcher access to group interactions that may provide additional information not likely to occur during an individual interview (Kitzinger & Barbour, 1999), focus groups are useful in producing data unavailable by other methods. In focus groups, the researcher acts more as a moderator than a direct lead, thus focus groups can diffuse the hierarchical power relationships that can occur in the solo interview process (Frey & Fontana, 1991). In addition, as participants both explain themselves and question others over the course of the conversation process, focus

groups create data from many voices. The synergy they produce may be greater than any one individual voice (Morgan, 1997).

Focus Group Procedure. Each focus group was also guided by a loose protocol. From the outset, I reassured all participants that each of them had valuable insight and information to contribute, thus I wanted them to ask questions of each other, and engage one another as they felt prompted, rather than look to me to be the only person generating questions and desiring answers. After I provided a brief recap of the goals of the study, each participant gave a short biographical overview. As none of the participants knew one another, these introductions served as a way to build familiarity and rapport. After introductions, I encouraged each participant to tell me a bit about how they are extending studio pedagogy using the internet. From here the focus group unfolded in a conversational manner and participants took the initiative, asking questions to one another and engaging in conversation. This enabled me to observe the interactions taking place, noting language, tone, and energy around each topic discussed. If certain members began to dominate the discussion and others appeared unable to speak, I would enter into the discussion and find a gentle way to open space for every participant. Because I had interviewed all participants it was not difficult to find a way to frame a question that would invite any given participant to share insights and experiences. Participants seemed very willing to share the triumphs and frustrations that occurred in extending studio pedagogy.

Each focus group occurred via webcam, bringing together remote participants in a face-to-face manner. As in the interviews, connecting via webcam seemed to increase intimacy and comfort among participants, as the participants' own physical locations

often became a source of informal, phatic conversation. Focus groups were approximately one hour in length. At the conclusion of each focus group I again thanked all participants for taking the risk to come, meet new people, and once again share their story. I also offered to connect participants via email if they were open to continue the focus group discussion further. All participants agreed to me sharing their information with others, and some participants even expressed interest in continuing the conversation and extending it into a collaborative project for the upcoming academic year.

I again transcribed all focus groups verbatim, removing all identifying information. As with the interview transcription process, listening and re-listening to the focus group conversations submerged me in the data. Because each focus group tended to have so many divergent conversational threads, spending significant time listening helped me gain a better perspective on all that had happened, and become aware of both the spoken and unspoken themes that developed. After completing the transcription I again listened to the audio recording and read the transcript to ensure completeness.

Memo Writing

Throughout the interview and research process I engaged in another hallmark of grounded theory, memo writing. Defined by Charmaz as “informal, analytic notes” (Charmaz, 2006, p. 72) memos are one of the key methods of data collection and data refinement in grounded theory. Memos containing researcher thoughts provide a record of the analytic process as it shifts and flows over the course of the study. This reflective process between the gathered data and the researcher’s own musings opens space for new ideas and insights to emerge. Also, memo writing creates a traceable map of research process and can, "form the core of grounded theory" (Charmaz, 2006, p. 94). My memos

included both brief notes to myself and longer written reflections. Short memos were often written down while going about my day. These memos became a way for me to capture subconscious reflections on the research process and ideas as they occurred to me. Longer form memos became a dialogue with myself during the research process. Longer form memos provided me an arena in which to sort through my perception of educator responses and underlying motivations.

Reflective Memos. I began writing memos at the beginning of the research process as I was shaping my study direction. My initial memos captured the preconceived notions that I, as a practicing design educator, might bring to the data collection process. These memos allowed me to become aware of the assumptions I brought to the study. Because constructivist grounded theory holds an emergent, co-constructed view of data, it is critical that researchers are as aware as possible of biases so that they do not attribute their thinking or mindset to that of participants. The following is a memo written during this time as I was navigating my own relationship toward both my participants and the phenomenon studied:

> *My participants and I are quite similar in that we are all design educators. Though our paths that brought us to design education probably weren't the same or even all that similar, we do share on some level a love of design, and even more a belief that this field is worth it enough to perpetuate, and whether on a full time or part time basis, teaching others and passing on the craft is a worthwhile pursuit. We all also have ideas about the best way to teach, which again may or may not be similar based on teachers we've had in the past, professional experiences we've had, institutions, etc. In addition, we've all probably not been*

formally trained as educators, meaning we don't hold degrees in education rather our ideas have been cobbled together based on our past education, our professional experiences, and our own unique view of what is needed in the design world.

Memos also can provide a way to explore sensitizing concepts (Blumer, 1962) or starting points from which to study the data (Charmaz, 2003). In the memo above, the concept of "cobbled together" and "constructed" emerged in relation to pedagogical training. As sensitizing concepts, these phrases were two of the many that shaped my interview protocol, and prompted me to investigate how design educators developed their own pedagogical practices.

After each interview, I generated at least one memo profiling participant's background, professional and academic history, and a summary of the main ideas I perceived to be of value to the participant. These memos provided me with a reference through which to frame participant's responses and experiences. Later in the research process when I began to amass many participants, participant memos helped keep track of participants. The distance these memos provided helped me see emergent patterns among participants, which then was able to feed back into the data analysis process.

Analytic Memos. Besides writing reflective memos, I also created analytic memos. Created during the data analysis process, these more technical memos were about the codes that were forming. These memos overviewed the code, highlighting key points such as why the code makes sense, code context, etc. The following is an analytic memo written during the data analysis process that happened after interview number eight.

Being a good host

Participant spoke extensively of the use of scaffolds to welcome the learner into the new online space or welcome them into relationship with the new online tools. There was much emphasis placed on the need for orientating practices happen to demystify the learning experience. By acting as an intermediary for just long enough so that the student could get comfortable with either the new tool or the process of engagement, this process of introduction, welcoming, etc. seems to be a way that the participant would empower their learners. Once learners were empowered, roles almost seemed to reverse as participant then seemed excited to see what new ideas/unexpected things the learner would discover and in turn bring back to the larger studio community.

The act of writing these analytic memos helped me refine my own ideas about the themes I saw emerging from the data. Memos also revealed further topics to investigate. In this way, these memos helped me clarify details, allowing me to move from an idea that had been a hunch, to something that had background and substance and traced to other emergent ideas. When I was further along in the analysis process, scanning these memos helped remind me of ideas that had occurred before and again compare elements within the data.

Data Analysis

Grounded theory is an iterative process of data collection and analysis. This means that analysis happens in tandem with data collection (Charmaz, 2006). On a practical level, this meant I analyzed and coded each interview using NVivo qualitative data analysis software soon after transcribing each interview. According to Charmaz (2006) “coding is the pivotal link between collecting data and developing an emergent

theory to explain these data. Through coding, you define what is happening in the data and begin to grapple with what it means" (p. 45). Coding involved identifying themes and patterns within each event (whether interview or focus group) and then using constant comparison methods as outlined by Glaser and Strauss (1967), to compare events to identify either commonalities or areas of dissidence. The insights revealed during coding directed my next round of data collection as I sought to see if codes revealed represented commonalities in the data, or emergent areas to investigate.

I followed the constructivist grounded theory coding process as outlined by Charmaz (2006), which includes:

1. An initial phase involving naming each word, line, or segment of data while remaining close to the literal data.
2. A focused, selective phase that uses the most significant or frequent initial codes to sort, synthesize, integrate, and organize large amounts of data.

Initial Coding. Initial coding is the time to generate as many ideas as possible from the data, through an inductive process. Charmaz (2014) refers to initial coding as the step that "generates the bones of your analysis" (p. 113). Once I transcribed data from the first interviews, I engaged in initial line-by-line coding as a means to fracture the data gathered and identify emergent concepts and categories. It was this initial coding that allowed me to begin sorting and synthesizing the data, creating the beginnings of my analytic framework.

I began coding in an analog manner, writing observations and notes on a printed copy of the interviews. This soon proved to be cumbersome so I switched over to NVivo software to conduct both initial and all subsequent coding. During this time, and given

that I was still new to the world of coding, most of my open codes were descriptive of actions taken, processes, etc. I followed the coding question scheme outlined by Charmaz (2006, p. 47), asking myself the following:

- What process is at issue?
- How can I define it?
- How does this process develop?
- What does the research participant profess to think and feel while involved in this process?
- What might his or her observed behavior indicate?

After I broke data down through line-by-line codes, I engaged in comparison between codes, looking for similarities and differences represented. These similarities and differences formed a lens through which I approached the next round of interviews, seeking to further explore what was emerging. For example, a commonality represented in the initial codes was the concept of time distribution. Finding this theme in several early interviews prompted me to look for it in future interviews to see if it might be important to the study.

Focused Coding. I continued to engage in constant comparison during focused coding, looking back and comparing previous line-by-line codes with the more focused codes developing. It is important to note that focused codes developed around participants' actions and meanings, rather than the literal topical themes present in the data itself. This "language of action" (Charmaz, 2006, p. 48) allowed me to stay close to my participants experience within the data and resist the urge to summarize, gloss over, or otherwise import an outsider perspective.

Because focused codes are the ones which move together to form a theoretical framework, it was important that they connected to my research subquestions and served to bring about greater insight into studio pedagogy. To test this connection, during the focused coding process I began connecting codes to research questions to see how they might interface together. Research questions proved to be a helpful framework to condense and focus codes, allowing me to see which made sense and which, though interesting, were outside the scope of the study.

Categories. Once one has engaged in both open and focused coding, the next step in theory development is developing analytic categories. Glaser and Strauss define a category as a, "conceptual element in a theory" (Glaser & Strauss, 1967, p. 37). Categories are born out of the comparison of focused codes, and analyze and develop ideas within codes. They are the larger conceptual containers used to group and organize focused codes. Categories develop by both identifying the most significant focused codes, and identifying relationships between codes. Abstracted from the data itself, categories outline larger concepts and ideas rather than direct actions or descriptions. In the constant comparison down to the codes and up to the larger abstracted categories, the emerging ideas ground into the categories and in the data, rather than form from any pre-existing or external elements. It is also important to note that categories, like codes, are always considered provisional and contingent upon theoretical sampling over the course of the study. I began creating categories after I completed five interviews and continued through the rest of my research and analysis process. Creating categories provided me with a framework to guide my later theoretical sampling process and also helped me become more aware of the themes developing within the data.

Reflexivity

Researcher-Participant Relationship. Because constructivist grounded theory emphasizes the co-construction of meaning between researcher and participant on a personal level, it is important to develop trust and rapport between researcher and participant. In the introduction to each interview I would share some of my own story on how I came to this research topic and my own background as a design educator. This practice allowed me to establish credibility and commonality with my participants who were also design educators. I also expressed my sincere desire to open space for them to share their own motivations, experiences, and frustrations.

During the interview process I tried to be as neutral as possible, listening with empathy and resisting the urge to offer advice, insert my own opinions, or express personal emotions in a manner that might be polarizing. To facilitate disclosure and participant comfort, I strove to be not only fully physically present but also fully mentally present to each interview. To enable this presence, I would spend five to ten minutes before each interview in silence or writing a reflective memo to help transition myself from my daily working life into my role as researcher. This space helped me find personal balance and ensured that I would not be so preoccupied with the busy rigor of my schedule that I would be unable to focus on my participant's sharing.

The dual role I hold as both a design educator and a researcher was beneficial in building credibility with participants and opening avenues for participant recruitment. However, this dual role also had an inherent tension, as it required me to navigate between two divergent identities. This tension was most apparent during my first round of interviews when my participants were contacts from my own professional design

education network. Because my natural communication style would have been to relate to each of these participants as a peer I had to alter my mindset and expectations. As reflected in my beginning memos, in these initial interviews I felt internal apprehension about how I presented myself before each interview began. For example, was I Lisa the design educator who was now conducting research? Or, was I Lisa the researcher who also had happened to be a design educator? For participants with whom I did not have a relationship, it was easy to adopt the latter identity. However with those who I knew before, the sway of the former was strong. Though the shift in identities is subtle at best, it is something of note because as the primary research collection instrument who happens to be both researcher and practitioner, the way in which I compose myself can have a dramatic impact on participant comfort levels.

For my participants with whom I had an existing relationship, it was important to establish a new researcher-participant relationship, different from our collegial peer relationship. This new relationship ensured that the ethical guidelines stipulated by my institution framed our interactions, meaning that discussions about the research only occurred within formal interview or focus group sessions, unless the participant themselves chose to acknowledge their place or contribution to the study. This was a challenge for me and a few times I found myself tempted to pass news to one participant about a life event that had happened to another participant. Though both participants knew one another, because I learned the information within the context of the formal interview, it was no longer information that was mine to share. This was again something I documented via reflective memos early in the data collection process. As interviews progressed and I became more comfortable and confident as a researcher, it became

easier to shift roles from peer to researcher. Living into this shift helped me push participants to further define terms or experiences once taken for granted given our shared experiences. This act helped me enter deeper into participants worlds as I was able to probe deeper into their own words and experiences.

I found it was much easier to relate as a researcher first to the participants with whom I did not have an existing relationship. In many ways because I had no expectations or a pre-existing image to support, I was much less apprehensive at the beginning of these interviews, and much more able to maintain a confident, comfortable tone throughout the process. Because I entered into these roles as a researcher who also happened to be a design educator, participants were able to become more trusting in my role and more assured in their role as a participant. Whereas participants I knew before might play out roles that supported our existing relationship as peers, new participants were free to act in a more candid manner and in many ways may have been able to reflect in a more open manner about their experiences when they were with me.

When conducting focus groups I once more had to navigate an identity shift, moving to the position of moderator and observer. Though I had anticipated this shift to be easy, I found the first five to ten minutes of each focus group when participants were still getting to know one another to be challenging. Though I was hopeful that participants would engage with one another without prompting, it was difficult to honor silence while participants thought about and reacted to prompts. My natural tendency during these times was to jump in and take over, but I kept myself silent so that others could take the initiative to ask questions, explore, and otherwise engage. In each focus group there occurred a “magic” moment where one participant would ask another

participant a question, and it seemed discussion would take off. Participant to participant driven questions were largely around practical or philosophical issues that I would have never asked, but found valuable in setting context and illuminating motivations and daily participant reality. Assuming an observer role helped persuade my participants that I was open to their ideas and looking for them to take the initiative in sharing their thoughts. Had I not been able to make this transition, I would have missed out on seeing my participant's world through this lens.

Research Rigor

When conducting a research study, it is imperative to put measures in place to ensure that the study is rigorous and that what emerges is more than a "nice story" (Urquhart, 2012, p. 169) about a phenomenon. Because this research used grounded theory to support a qualitative investigation of the ways design educators are using the internet to augment and extend studio pedagogy, establishing trustworthiness in both the process and the results ensured rigor. Trustworthiness is the "conceptual soundness from which the qualitative research may be evaluated" (Bowen, 2009, p. 306). The following four trustworthiness factors as suggested by Denzin and Lincoln (1994) guided the study: credibility, transferability, dependability, and confirmability. Each factor is further expanded below.

Credibility. Credibility is the "confidence one can have in the truth of the findings" (Bowen, 2009, p. 306). As suggested by Lincoln & Guba (2005) I implemented the following methods into the research process to ensure credibility: prolonged engagement, persistent observation, triangulation, peer debriefing, and member checking. Lincoln and Guba (2005) cite prolonged engagement as providing the

scope for the research, while persistent observation provides depth to the research (p.304). Data gathering for this study took place over the course of several months. During this time, I engaged in many interviews and focus groups with design educators. This process ensured that I had both prolonged engagement and persistent observation within the field.

Triangulation is the process of collecting data from many methods and sources to ensure that data are comprehensive and well developed (Patton, 2002). This study used this latter method of triangulation as I conducted interviews with a diverse population of participants, and compared people with different points of view, different experiences, and in both single and group settings. This study also used the former method of triangulation as I gathered data through both interviews and focus groups.

Peer debriefing is engaging with a "disinterested peer…for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind" (Lincoln & Guba, 2005, p. 308). This process welcomes other eyes into the emerging categories of data, ensuring that the researcher remains reflective and open to any implicit biases, assumptions, or perspectives. Throughout the research process I was in close contact with both my supervisor and select cohort members. I also engaged in the memo writing throughout the research process, which gave me another avenue through which to debrief the data.

Member checking gives research participants the opportunity to assess and review the research information they provided. Lincoln and Guba (2005) view member checking as one of the most crucial methods for establishing credibility as it allows participants themselves, to check and ensure their portrayal of a phenomenon is accurate. To support

member checking, after I transcribed each interview, each participant received a transcript of their interview via email to review so they could check it, correct any errors, and volunteer any additional information.

Transferability. Though a theory emerges in close proximity to the data that generated it, through the coding process, the theory itself should distill into something with wider applicability (Strauss & Corbin, 1990). Transferability is "the applicability of one set of findings to another setting" (Sikolia et al, 2013, p. 3). Thick descriptions of the following enhance transferability: the research process, the researchers own position in relation to the phenomenon studied, and the relationship between the researcher and the participants (Bowen, 2009). Cooney (2011) calls for grounded theorists to record methodological and analytical decisions in memos written to form an audit trail of the process (p. 20). Throughout the research process, I engaged in extensive memo writing.

Dependability and Confirmability. The final two intertwined trustworthiness factors are dependability and confirmability. Dependability refers to the data's ability to represent the conditions of the phenomenon under study (Brown et al, 2002). Confirmability refers to the coherence of the data (Denzin & Lincoln, 1994). Both rely on the researcher constructing a thorough and cohesive audit trail of the research process, detailing key decision points, raw data, and memos when appropriate, so that another researcher or an "inquiry auditor" (Brown et al, 2002, p. 9) could examine key categories, connections, and relationships, and confirm the emergent theory. In the remaining chapters of this dissertation I will trace study findings, including outlining the key categories and connections from which the theory emerged.

Ethical Considerations

In qualitative research, the researcher works in close proximity with participants to explore the participant's own experience of the phenomenon. Because of this intimacy, it is vital to ensure that participants feel safe and protected throughout the research process. In this research study, all participants received a written description of the study and signed an informed consent letter, acknowledging that they are aware of the implications involved, intent of the study, nature of information gathered, and ability to withdraw at any point without consequences. Participants also remain anonymous in the final research presentation. A secure external hard drive held all recordings and transcripts. Data was not collected until I had received approval from the Research Ethics Board at Athabasca University. A copy of REB approval is in Appendix C.

Summary

In this chapter, I outlined a history of constructivist grounded theory, the chosen research methodology for this study. Next, I overviewed the selection of participants, process for data gathering and analysis, and strategies to ensure trustworthiness. I concluded the chapter with ethical considerations of the study. In the following chapters I will outline the research findings, as well as conclusions and potential future directions.

Chapter 4: Findings

In a grounded theory qualitative study, results emerge as themes, categories, and theory born from and grounded in participant stories and lived experiences. The researcher explores the phenomenon by coding participant interviews. From these codes, the researcher creates a substantive theory, defined by Charmaz (2006) as, "...a theoretical interpretation or explanation of a delimited problem in a particular area" (p.189). Building on Chapter Three, this chapter will begin by identifying the three primary themes developed from the data: "transposing structures," "transforming roles," and "expatiating perspectives". The chapter will then move into a discussion of the core category created, "traversing" as well as the substantive theory, which emerged, from the study, the Replication-Collaboration Continuum. This chapter will conclude with an analysis of how the substantive theory integrates with the primary research question that guided the study: *how are educators using the internet to augment and extend studio pedagogy in graphic design education?* as well as the four research subquestions. Throughout each theme, participant quotes will be integrated using either in-text italics or block quote formatting as appropriate.

Theme One: Transposing Structures

"Transposing structures," is the first theme to emerge. To transpose means to interchange and shift, to alter the order or position of a series of things (OED). Transposing structures refers to how educators use the internet to transpose traditional place-based elements into digital, networked channels and in so doing, replicate studio pedagogy. Prominent codes in this theme include: "disseminating materials," "supporting the studio", "partnering with the internet" and "expanding the conversation." This

structural shift is often foregrounded by educators reconciling a pedagogy once built on an abundance of time with learners with new institutional reality of time scarcity.

Transposing place and space. Studio pedagogy is traditionally a pedagogy marked by physical proximity among a small group of participants. Because it is the workplace for a learner, the abundance of time spent with peers in the separate space of the studio fosters an enduring familial intensity. Traditional design studios are a resource-intensive endeavor requiring dedicated unique physical space, long faculty hours, and clever course scheduling (Cennamo & Brandt, 2012). For many institutions, maintaining a traditional studio space is in direct conflict with dwindling financial resources thus dedicated physical studio spaces are often abandoned for multi-use computer labs, contact hours are being reduced, and course enrollment is increasing (Bender & Vredevoogd, 2006).

Though this shift may be beneficial to institutions, it is problematic for design educators. Because educators were most likely a product of a traditional studio education, based on an apprentice model, the default model of teaching is to replicate the teaching style that was received as a learner (Davis, 2008). However, the design landscape in general, and the design education landscape in particular, has become a very different place in the past decades. Replicating the teaching style inherited is becoming less and less possible because of the eroding time and space hallmarks of studio pedagogy.

With this sense of scarcity comes an increased feeling of anxiety and frustration as expressed by Julianna: *I have the students, for depending on the level, 2.5 or 3.5 hours at a time. But I only see them that once a week. So in theory I only see them 16 times in a semester if they never come to my office hours. And that's really challenging.* Jason too

noted that upon accepting a new position at a vibrant urban college he was excited and then, upon learning about the new institution-mandated studio times of seventy-five minutes twice a week (down from almost triple that at his previous institution) felt a feeling of, *"How am I ever going to do this?"*

Disseminating Materials. After acknowledging time scarcity, participants considered other ways they could compensate. The most common compensation method was extending access to teaching and learning resources by placing them outside of the physical studio space in an online repository. From course blogs, to team communication software, to flipped classroom setups, participants all acknowledged using the internet to replicate elements of traditional studio pedagogy, supporting the studio by extending access to teaching and learning resources in some format for learners:

> *I maintain a class website where I post a lot of different things and I curate content for them and that's where they can access things for my class. (Ben)*
>
> *If there's a link or anything I would have normally printed off, all of those go electronically on Slack. It's a benefit. It cuts down on paper waste. If the students lose the paper copy, I've got to give them another one, now electronically they can always access it. (Carl)*

Implementing these practices came with a good deal of experimentation as educators navigated what was most effective for their own learners. As participants engaged in an iterative experimentation cycle many noted that, though they had extended access to ease their own sense of time scarcity, they observed positive and unexpected outcomes amongst learners. For example, Jon noted that attendance and engagement in the physical studio actually increased:

So at some point it dawned on me that the students weren't coming because they were either frustrated with the rest of the class because it was like going too slow for them, like learning code, so it was going either too slow or it was going too fast. So that the only students who were showing up on a regular basis on time were the ones where it was perfectly paced for them.

So then I thought why not do the whole flip the classroom thing? All the software skills I was teaching them, I made screencasts. So that was their homework. And then in class we focused on design principles…everything you basically need to front end build something. And lo and behold...I no longer had attendance problems!

Others noted that accessing course materials online opened up dialogue with leaners around user experience. The spaces of content delivery become a teaching moment, challenging learners to not only use the interface to learn content, but also to become critical of the interface itself. These discussions become catalytic in shifting learner's conceptions of design from being only an artifact to design, to more of an interaction or strategy.

Accommodating Learners. Participants also used the internet to replicate studio pedagogy because they felt that transposing structures better accommodated diverse learners. In most institutions at least one third and sometimes up to three quarters of learners were both attending school and working one or more jobs. For these learners, spending extended time in a physical studio was not optimal and often not possible. Extending studio spaces using the internet and thus allowing learners to access course material on their own time was a key way participants felt they could honor lifestyle

diversity among their learners as shown in the following passages:

> *If I make my courses blended there's a greater chance that maybe there's a student who is a couple hours away doing the online degree and really wants to take my classes but can't commit to 3.5 hours maybe they can do 1.5 hours once a week knowing that a lot of their content is also online. (Julianna)*
>
> *If a student is out for lets say a health situation or a family situation or a student who can't get to campus for whatever reason I mean there are ways in which not to say an online class but having ways to connect in an online format well then that can also work or can also become important. (Jason)*

Julianna perceived positive outcomes from learners when she allowed learners more flexibility: *Learners appreciated being able to have their own time schedule. So you just post by this certain time.* Rather than working only on the timetable of the educator or the mandated timetable of the institution, learners were able to exercise their own agency and work at a time that was best for their schedule. The expectations and deadlines are still in place, but the learner's own working process can be more fluid and dynamic:

> *You know, some of them do like that self-paced. They like to rewind the video and listen to it again. They do like to study at night. And that kind of like, again we are student centered. Students are in the middle of all our endeavors. So we shouldn't spoon feed them but there are certain things we can make available to them and I think we should. (Albert)*

Continuing the conversation. In addition to extending access to course content material, many participants noted that they also used team management software with

real time messaging capability to make themselves more available to their learners. By using team communication software in courses, learners can send direct messages about assignments, send updates on life situations, or receive in-process feedback. Unlike email, which requires a higher level of interface navigation, this software allows participants to connect with learners in a just-in-time manner. When learning technical skills, oftentimes learners get stuck navigating a simple process. Having quick access to the educator allows small issues to resolve in a more rapid manner so the learner can continue working. As Javy noted, this quick check in process aids project development:

> *If you can say like hey let's have a 5 minute check in on your projects you know its actually not much work on my end or theirs to just have a quick connect…if I can give someone one pointer in like 5 minutes that's fantastic you know? That's really very useful.*

Another participant noted that because he teaches in an adjunct position, he is often only on campus for a short time each week. To compensate, he too uses team management software with chat capability, and is now available to answer quick questions for learners all throughout the day even while working. Though participants noted that being "on call" for learners all the time now instead of only during set studio contact times did blur their work-life balance, because this pathway meant that they knew what was happening with their learners during the week, they thought the trade off was worth it.

Transposing Structures Summarized

In summary, the first theme, transposing structures, refers to the process of participants using the internet to shift content and communication elements of traditional

place-based studio pedagogy. Prompted in part by institutional changes to the studio pedagogy hallmarks of time and space, participants used the internet to shift the structure of the studio by replicating studio elements online. Participants perceived these structural shifts resulted in increased access to learning materials, including the instructor, and increased accommodation for learners themselves.

Theme Two: Transforming Roles

The second theme to emerge is "transforming roles". To transform is to change into another shape or form; to metamorphose (OED). Transforming roles refers to the process of participants stepping out of the obvious central role of visible dominance in studio pedagogy to flatten hierarchy. By flattening hierarchy, participants endeavored to encourage learners to take more personal initiative in the learning process, to define what skills they felt were important to complete any given design task, and to do the necessary research and learning to prepare themselves. By flattening hierarchy, participants hoped to encourage the studio learning community to better coalesce into a cohesive unit, which could then teach and learn from one another. Prominent codes that support this theme include: "masking the hand of the educator," "cultivating written articulation," "living into a future identity," and "owning the educational experience."

Navigating Roles. In studio pedagogy, the educator tends to take on a more dominant role while learners tend to assume a passive, lesser role. From conceptualizing project ideas to leading critique—learners look to the educator to tell them the correct answer and lead them in the right direction. As Schön (1983) posits, it is from the reflective embodied example of the educator that learners learn how to interact as a designer in the world.

When using the internet to augment studio pedagogy an interesting shift occurs in the learner's perception of the educator. Instead of the educator being the only one who the learner looks to for information, the learner now also uses interfaces and peers for guidance and knowledge discovery. Though the educator is the one who still has set up these structures in an intentional manner, the educator's obvious presence becomes hidden. This obfuscation allows roles to shift and become more fluid as the hierarchical structure of the studio itself becomes decentralized.

The Role of Critique. Unlike other disciplines where the primary pedagogical mode is a form of lecture followed by tested assessment, in studio pedagogy, learners engage in project-based learning, creating an effective solution to a hypothetical design problem. Assessment occurs through critique. Critique consists of a series of presentation cycles, where the learner presents their work to the larger studio community, engages in dialogue, and then reflects, refines, and revises the project based on feedback received (Nottingham, 2014). Critique is the main learning methodology of studio pedagogy (Chen & You, 2008).

Decentralizing Critique. Many participants noted that they extended studio pedagogy by conducting some critique in an online space rather than conducting critique only in the physical face-to-face studio. They chose to do this for a variety of reasons including: compensating for a lack of time in face to face studio sessions, providing learners with practice writing about their work, and opening space for more intentional peer to peer interaction and collaboration.

In this decentralized critique structure, learners are responsible for communicating and giving critique to one another with minimal input from the educator. This critique

happens through the mediation of a shared online interface where learners can post their work, writing an overview of their process, struggles, questions, etc. As seen in the following quotes, many participants remarked that in decentralized critique, learners far exceeded their expectations with their level of engagement, their honesty, and their critical thinking ability.

> *I think they get a lot more honest. They get a lot more legitimate in what they're saying….I think it kinda gives again a sense of this agency idea. I think they understand it. (Jason)*
>
> *What has happened in the past is, which is incredible, is that some students spend like four hours writing. They like, write like, 2000 words. Like it's crazy. (Kris)*

Noting learners often have a hard time engaging in a face-to-face critique session, this participant sums up the benefits he found from moving critique to an online space:

> *I personally don't like to spend lengthy three-hour classes just staring at work on the wall and everybody feeling awkward about saying things. The students are not going to participate in that situation. I want to give them a chance to share their feedback and I've found overwhelmingly that they will do that a lot more openly, honestly and quickly if they can write it. (Carl)*

In addition to noting that learners seemed engaged and honest through the critique process, participants also noted positive and unexpected outcomes amongst learners who tended to be more introverted. The relative quiet of the online critique space welcomed those who might otherwise remain silent and provided participants with another avenue by which to connect to their learners.

> *I often have very opinionated students who will talk over everyone if I don't give*

moments and jump in to clear a little airway for my more quiet students. In discussion board they don't run into that problem, right? There's not noise happening so they can sit and thoughtfully compose and provide their feedback. (Julianna)

In the online format they can take a moment and really think about their responses. It's not just like, "well I like it because the colors and its all good." In the classroom it's moving so fast that they just don't have that time to internalize what they want to say as much. (Kyle)

Balancing Power. Though considered to be the main learning methodology of studio pedagogy, critique is not without its critics. Cuff (1991) cautions that critique can be complicit in replicating harmful power imbalances between the educator and learner. Through critique, learners can be more motivated to change their work or themselves to please the educator and gain a better grade, than to use knowledge gained in critique to develop their own personal vision. Participants too noted this tension saying that because they were the visible lead of the course, there always seems to be a tension to "art direct" a learner rather than work with a learner to hone the learner's own vision. As shown by the quotes below, extending studio pedagogy by conducting critique online was one possible way to lessen this tendency. In this way, using the internet to extend studio pedagogy through conducting critique in an online format may be a way to overcome some of the negative power associations that critique can enact.

Online critique is one way I think to take the emphasis away from 'what does the teacher think?' or 'is the teacher going to essentially give me a good grade?' And like being or thinking a little bit more reflectively about what do my peers think

about my work? What do I think about their work? What are some things that maybe I can help them think about differently? Then they start to see maybe or at least theoretically the value of their input and their collaboration…if you want to use that wording. (Jason)

Empowering Learners. Another place where a conscious transforming of roles occurred when educators used the internet to extend studio pedagogy was in learner empowerment and active promotion of peer to peer learning. With the educator extending studio pedagogy using the internet, educators have shifted the focus from giving learners required materials to equipping learners with the search and discover skills necessary to locate the resources they need to realize their own unique creative vision. This philosophy appears in this statements:

Part of this class is that they have to learn to learn on their own. I tell them that my job in this class is not to teach you everything you need to know, but my job is to teach you how to find out the things you need to know. I give them the speech about being independent. And also when someone asks me something I say, "I don't know that. I know I could find it for you but you can find it too. So if I'm going to have to find it and tell you, why don't you find it? (Ben)

Educators are promoting agency in learners, allowing them to pursue not only their own creative ideas, but also empowering them to equip themselves for the learning process. Participants perceived increased learner confidence because participants created routes for learners to be in charge of their own learning process. The learner's role shifted from passive recipient to active constructor of knowledge. Because software changes at such a rapid pace, participants speculated that this self-learning confidence would be

integral to a learners future when engaged in professional practice.

> *There are plenty of good tutorials online so students can learn themselves and the software that they're going to be using in the work place, wherever they end up, is going to be different than what they're using their university years*
>
> *so, its important for them to learn how to learn on their own and change the packages that they're using. Otherwise, we're just training people who are skilled in particular software and are going to be dependent on that software to do the work that they're doing. So we'd like them to be more independent. (Mike)*

Promoting Peer-to-Peer Learning. Participants also mentioned that empowered learners are much more likely to teach one another through peer-to-peer learning.

> *If there's a specific question I know someone figured out and then if the same question comes up, I direct the student to go find the student who just figured it out and they teach them. When you're a working designer that is how it happens. (Ben)*
>
> *Often I'll see learners working and they will be like "Oh hey! I just found this!! Let me show you how to step through that rather than you having to watch the whole video too. (Julianna)*

Practices to Support Transforming Roles

When engaged in transforming roles, participants emphasized the importance of supporting their learners, being sure to provide adequate scaffolds and guidance in modeling behavior before expecting learners to enact particular behaviors. Common support methods included spending a face-to-face studio session walking through a new interface together, providing an independent ungraded "test run" activity to demystify the

process, and providing learners with information outlining how to discern credibility and reliability in a web resource. The balance of direction needed varies from group to group thus finding the optimal balance is something that all participants noted is not generalizable.

Transforming Roles Summarized

In summary, the second theme, transforming roles, refers to the process of participants using the internet to flatten traditional hierarchy, moving themselves out of the obvious center of the studio. This movement results in a role shift, prompting learners to take greater initiative in pursuing those topics deemed most necessary to learn for any given project and prompting learners to join together in peer-to-peer learning through the online critique process. Participants perceived these role shifts resulted in increased learner agency.

Theme Three: Expatiating Perspectives

The third theme to emerge is "expatiating perspectives." To expatiate is to enlarge, extend, or expand. To expatiate is to enlarge, extend, or expand. Though the modern use of expatiate can imply speaking or writing at length in a dense or rambling manner, its etymology connotes exploration and roaming without restraint (OED). This study endeavored to return to the etymological roots of expatiate, particularly as they imply a sense of journey, exploration, and expansion.

"Expatiating perspectives" then refers to the process of educators using the internet to provide alternative frontiers, shifting studio pedagogy from a method that privileges project simplicity to one that emphasizes greater levels of systemic complexity. Where once curriculum taught design process in a prescriptive manner and emphasized

projects that are artifact based and accomplishable within the closed spaces of the studio, participants who use the internet to extend studio pedagogy acknowledge a move toward projects with greater complexity. These projects provide learners opportunity managing competing priorities, and collaborating with those who may be outside the learners own cultural, geographic, or disciplinary zone. In this way, educators are using the internet to extend studio pedagogy to give learners a larger perspective of their role as a designer in contemporary society. Prominent codes that support this theme include: "connecting with others," "taking ownership of digital identity," and "navigational collaboration."

Navigating Distant Collaboration. One way some participants noted they were working to open learner perspectives on what it means to be a designer is by incorporating collaborative projects with other learners in geographically distant locations. In these projects, learners in both locations work together to explore the issue, learn from one another about contextual practices, and collaborate to create a solution.

> *I've been doing cross-cultural collaborative work with particularly a faculty member from another institution and we have been trying to use the internet and I would say different forms of virtual communication to connect our classrooms together. We've been doing this as a way to try and break down the cultural barriers that might be particularly between where I am located and where she is located. (Jessica)*

Educators who extended their studios in this way noted that these collaborative efforts created an environment that nurtured dialogue among diverse learners. By communicating and collaborating with someone who is different, participants noticed that learners became more aware of many of their implicit biases and hitherto unspoken

cultural norms.

> *We are now using the collaboration to support sustainability and social design in the classroom too so what would it mean to bring students together around more sort of serious topics that would maybe help students have deeper conversations. (Jessica)*

Though the created solution was the visible output and initial way educators in both locations would establish learner buy-in, participants expressed that in actuality the better byproduct was the way the project stretched the learners own thinking about the complexity inherent in every design issue. As shown in both quotes below, the "aha" moment was not in the final product rather it was through the interaction with a diverse partner. In these situations, learners had to practice navigating expectations, building consensus, and creating work in a structure that had many variables that were wholly outside the place based studio and also wholly outside of the learners own control.

> *We had an urban, metropolitan perspective and we had a regional view and the exchange happened through Flickr and Skype. So that was the technology to connect the two but the learning actually then came out well, the "aha" and the really like great experience for students was actually being able to exchange about their experiences and how the same topic is explored differently depending on the context you live in, and that then obviously leads to further learning. And technology in that sense was a tool. (Albert)*
>
> *I feel like those conversations that came in between the project, prompt students to just have these "aha moments" of like wow, your cultural circumstances are much different and wow. There is probably no way we could have designed the*

right solution without talking to each other or getting to know you. (Jessica)

When engaged in expatiating perspectives, participants emphasized the importance of spending adequate time with their own learners outlining the process that will occur so the learner has a scaffold from which to navigate. Because the experience is entering into a space of greater complexity than the traditional studio, developing trust is key as noted by Jessica: *"They* [learners] *really need trust and willingness to navigate what is kind of a clunky process sometimes, and imperfect in many ways and super messy, but I think they're willing to go along on the ride with me a little bit later."*

Besides gaining learner trust, participants noted that it is helpful to provide adequate space for learners to explore their own assumptions about others before collaborating. Again noted by Jessica: *"I think just having those sorts of conversations beforehand also gets some of that out of the way so they're not like I'm just meeting you and I have all this baggage within me about you."* Because the studio can be an insular world, these intentional dialogues help with, *"getting through some of the murkiness that might exist around otherness."*

Welcoming in Outside Expertise. Though studio pedagogy has been a constructivist-learning environment, it has also traditionally been a closed ecosystem where the master educator sets the agenda and all participants iterate within those confines. All the learners need to complete the task is within the studio itself. Increasingly, participants mentioned that they are using the internet to welcome in outside expertise and outside voices. This welcoming in using the internet is a way to expose learners to guest critics, working professionals, clients from other disciplines, etc. The efficiency of technology means that new expertise can enter into the studio dialogue

with no travel costs. To this end, several participants mentioned bringing outside guests into their studio spaces using videoconference software. These guests provided guest lectures or guest critique sessions. One participant noted that as he and his learners began reaching out and connecting their school projects to larger world projects and expertise, they often encounter an unexpected issue, running out of time to connect and learn from all the people outside the studio community who expressed interested in coming in and contributing:

> *We had more people offering to come in and help with the course than we could integrate with the course given our timetable. So I think it certainly showed the students what could happen when you do more of your designing and more of your thinking and more of your work in the open. (Mike)*

Expatiating Perspectives Summarized

In summary, the third theme, expatiating perspectives, refers to the process of participants using the internet to welcome in outside voices through engaging in collaborative projects, and to move the studio from a simple and closed system to a complex and open system. Using studio pedagogy to connect to the world outside of the studio resulted in a perspective shift for learners. Participants perceived this perspective shift resulted in learners viewing themselves as being part of a larger worldwide graphic design network.

Moving from Themes to Theory

The goal of this study was to create a grounded theory on how educators are using the internet to augment and extend studio pedagogy. Charmaz (2014) notes that theory forms by "reaching down to fundamentals, up to abstractions, and probing into the

experience" (p. 245). This reaching both down and up is an iterative process. The researcher becomes immersed in the data, and theory becomes constructed through the researchers own involvement with all elements in the study. Theory becomes a bridge, formed through abductive reasoning, and rooted in participant ideology and researcher experience.

The substantive theory, which has emerged from this study, is the Replication-Collaboration Continuum. This model describes the different traverses educators enact when moving from pedagogy traditionally rooted in a specific place and space, to one that is increasingly decentralized. The Replication-Collaboration Continuum is the theory that emerges in response to my research question: *How are graphic design educators using the internet to augment and extend studio pedagogy?* The following sections will outline the core category that led to the emergence of the theory as well as an illustration of the theory, further defining its integration with the main research question and research subquestions.

The Core Category. A key aspect of theory development within grounded theory is identifying a core category. The core category acts as a way to connect ideas, concepts, and reflections together in a unified framework. Integrating the various emergent threads that appear during data analysis, the core category should be traceable back through the themes generated and the raw data trail. Because the core category emerges from the researchers own interaction with the myriad of data fragments around participant experiential narratives, the core category is a way to give voice to participants (Strauss & Corbin, 1990).

I began positing possible core categories and writing analytic memos about

potential core categories during focused coding as I was grouping the data into the three primary themes. My initial idea for a core category emerged around the idea of "transformation" looking at the ways studio pedagogy is being transformed through internet usage. However upon further reflection, it became clear that many participants were not speaking of the ways the internet interfaced with studio pedagogy for transformation, rather they were using the internet more as a means to replicate pedagogical tasks they no longer had time for within their face-to-face, brick and mortar studios.

This realization led me back into the data and into further construction and comparison of codes, memos, and transcript data. It became apparent that rather than a single method or motivation, there is a continuum that describes how educators are using the internet to extend studio pedagogy. At one terminal are practices of using the internet for its replication potential, replicating aspects of studio pedagogy within an online space. At the other terminal are practices that use the internet as a means to open up space for connection and collaboration, to help learners integrate into the larger world of professional practice. Most educators move in a fluid manner within the spectrum, fluctuating between poles depending on the task at hand, and the given group of learners.

In this way, the core category constructed from data analysis is "traversing." To traverse is to run across or through something (OED). Traversing has connotations of journey in general and journey through mountainous, rugged, treacherous terrain in particular. From the participant perspective, traversing is the process of navigating often-treacherous institutional and vocational cultures. It is running across an ever-shifting landscape that blends brick and mortar and digital means. It is moving through

relationships with those both inside and outside of the studio environment. It is moving in and out of visible leadership.

The following section analyzes traversing in relationship with the three primary themes: transposing structures, transforming roles, and expatiating perspectives. In addition, the core category of traversing will extend into an explanation of the Replication-Collaboration Continuum, the theoretical framework which emerged in response to the main research question: *How are graphic design educators using the internet to augment and extend studio pedagogy?*

Traversing the Replication-Collaboration Continuum. As Nottingham (2014) noted, in a traditional studio, the walls, tables, and windows of the studio become non-human pedagogical agents capable of teaching learners. For educators who are extending studio pedagogy using the internet, now a whole new set of digital pedagogical agents are coming into play. Screens, browsers, and chat boxes are the new walls, tables and windows. This study addressed how educators are using these digitally mediated pedagogical agents within studio pedagogy.

Because using the internet to extend studio pedagogy brings a shift to the structures of learning, educators must become adept at traversing physical and digital spaces to produce a unified studio pedagogy for learners. In speaking of creating websites for their courses, inviting learners to create blogs, and using synchronous online chat tools, participants all noted that their choice to use the internet to augment and extend studio pedagogy began with them traversing physical and digital spaces. Transposing structures represents a replication of studio pedagogy and acts as a gateway to the Replication-Collaboration Continuum.

From here participants took divergent pathways. Some choose not to use the internet to extend studio pedagogy further, ending in a replication capacity. Others chose to enact the second traverse, traversing roles. This entails transforming roles through decentralizing themselves as the visible leader to encourage greater individual confidence and greater peer-to-peer learning. Participants noted that this occurred in a variety of ways, including through the critique process, through empowering learners with the skills to evaluate resources, so that they could learn on their own, and through opening space for greater peer-to-peer learning to occur. Traversing roles can only occur if one has created a studio replication framework through traversing structures. Traversing roles forms the midpoint of the Replication-Collaboration Continuum. As in the traverse of traversing structures, some participants chose to complete their journey of using the internet to extend studio pedagogy in traversing roles.

Others participants again chose to continue on, traversing perspectives by using the internet to welcome learners into a complex world of collaboration. Using the internet to extend studio pedagogy in this traversing perspectives capacity calls for educators to nudge learners into a multi-faceted system of greater complexity. Participants noted that traversing perspectives requires an acceptance of high levels of ambiguity, because collaborative projects involve so many inputs and actors outside of one's control. Participants who spoke of experiences navigating distant collaboration and welcoming in outside expertise noted the importance of "test run" activities and exercises before traversing perspectives, in order to build learner efficacy and empower learner confidence. In this way, to enact this, educators must become adept at traversing perspectives, which begins by acknowledging the second traverse, traversing roles.

Traversing perspectives happens through engagement in open practices and collaboration and forms the other end of the continuum.

It is important to note that collaboration was chosen as a description of this process over another possible alternative, cooperation. Though both terms are closely related, this study draws on definitions of both by Panitz (1999) for justification of the appropriateness of collaboration. Panitz posits that cooperation is about engaging within a "structure of interaction" (p. 494). In cooperation a teacher sets the agenda, constructs groups, and maintains overall control of the process as it unfolds. The end product or artifact is most likely predetermined. The purpose of cooperation is the accomplishment of the task itself and each participant contributes his or her part to the larger whole.

In contrast, Panitz posits that collaboration is about engaging within a "philosophy of interaction" (p. 494), which entails participants first acknowledging their implicit connection and responsibility to one another. Though collaboration most likely leads to the production of an artifact, no one person maintains control through the process. The purpose is less about the artifact itself and more focused on each participant engaging in and learning through individual and group dynamics. Because of the dynamic, fluid, complex nature of work participants described within the process of traversing perspectives, collaboration was seen as the appropriate construct and thus offer a counterbalance to replication on the overall continuum.

Traversing structures, traversing roles, and traversing perspectives then become the basis of the Replication-Collaboration Continuum, the substantive theory formed out of this study. As seen in Figure 1, and as explained above, each successive step builds on the previous step, meaning each step relates in a cumulative, progressive manner. The

ends have arrows, showing that the continuum is not a static entity, rather it is in a state of flux and movement. It is important to note that educators choose where to place themselves on the continuum, and by choosing, define which traverses to complete. It is also important to note that by nature the continuum is flexible and blurs depending on the unique combination of learners that form any given studio community.

Figure 1. The Replication-Collaboration Continuum

Addressing Research Subquestions

The previous sections discussed the core category and substantive theory that emerged. These were guided by the main research question, *how are educators using the internet to augment and extend studio pedagogy in graphic design education?* This section will address the research subquestions that guided this study in relation to the substantive theory that emerged. The research data collected and the guidelines of Kvan (1997) for framing and conducting effective virtual design studios act as a filter for the subquestions. Though written over twenty years ago, Kvan proved to be prescient in his speculations about the benefits of extending studio pedagogy using networked technologies. Mapping research subquestions to this framework provides another way to root this research study into the larger studio pedagogy narrative.

Figure 2 shows how each research subquestion maps to the continuum. I did not use a word or theme frequency measure to construct these lines rather, my interpretation of how participants addressed the quality of each relationship during interviews and focus groups determined line width. For example, participants who spoke in depth about

traversing perspectives often also cited professional work experience as impetus in doing this, or as something that influenced the tools they used to execute this traverse. Through their tone and word choice, it became clear that their professional work experience provided a compelling impetus for them in extending their studio spaces. Professional work experience then was heavily tied to traversing perspectives, reflecting a high connection and flow between these elements. In contrast, through their tone and word choice, it became clear that institutional support was something that participants acknowledged had little impact, and often was not the impetus that caused them to traverse structures, roles, or perspectives. These lines are thin reflecting this low connection.

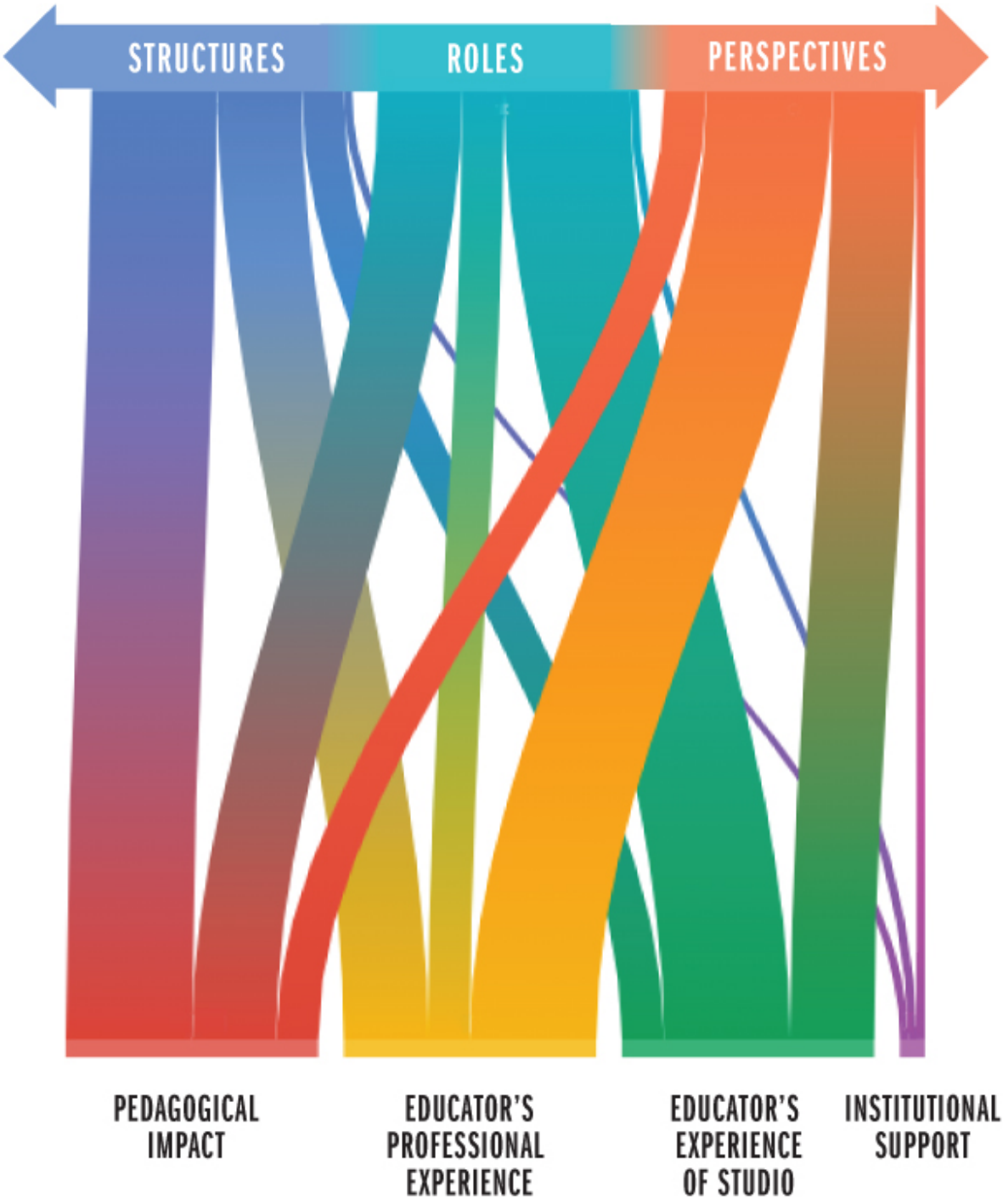

Figure 2. The Replication-Collaboration Continuum Mapped to Research Subquestions

Subquestion 1: Pedagogical Impact. *What pedagogical impact do educators perceive come from extending studio pedagogy via the internet?* Pedagogy is the method and practice of teaching (OED). This sub question then explores the pedagogical implications educators perceive when using the internet to extend studio pedagogy. As shown in Figure 2, this sub question maps to all parts of the continuum, though pedagogical impact occurs most in the first traverse, traversing structures.

Because studio pedagogy has hinged on the physical studio, using the internet in greater measures requires the physical studio to now share space with a "digital" or "virtual" studio. Kvan (1997) noted that when engaged in a virtual studio, the extensive use of technology raises pedagogical issues as learners must become aware of both the processes of design, and the ways that networked technology mediates the processes of design (p. 176). The educator in essence has to teach both how to navigate through the design process, and how to navigate through the technology to support design process.

This corresponds to participant experience when traversing structures. Participants in this study noted that they took for granted that learners would know how to navigate interfaces chosen to extend studio pedagogy, speculating that learners were "embedded in technology" and "fluent in technology." Yet, they soon found that their efforts to use the internet to extend studio pedagogy often exposed that learners encounter the internet with the mindset of passive consumer, rather than the mindset of active meaning-making creator. To accommodate this, some participants shifted pedagogy in a manner that brought greater awareness to the implicit structures that form the digital spaces occupied daily. As the physical studio shapes and shifts traditional studio pedagogy, participants found that, so too, the digital studio shapes and shifts online studio

pedagogy. Participants spoke of "giving learners a tour" of interfaces, breaking down each part not only for navigational purposes, but also to encourage learners to think about the functionality and user experience. These shifts from passive receptivity to active engagement encouraged learners to see the digital world as pedagogy, ever capable of imparting new skills and ideas.

Subquestion 2: Professional Experience. *What influence does professional graphic design work experience have on the ways educators use the internet to extend studio pedagogy?* This sub question looks to explore how the educator's background as a working professional impacts the way they use the internet to extend studio pedagogy. This sub question comes from the assumption that because design is a trade, all educators have at least some passing experience working as a professional designer. This assumption proved true as all participants identified as working in the field in some capacity. This sub question maps to all parts of the continuum, but its impact appears most prominent in the final traverse, traversing perspectives.

Kvan (1997) noted that learners are entering a world "where their knowledge is of higher value than their presence"(p. 165). It is vital then that learners have the skills to navigate computer-mediated communication, becoming "adept at delivering their expertise wherever it is needed" (p. 164). Participants corroborated with this viewpoint noting that their professional work included at least some communication with clients via computer-mediated means and often relied fully on the internet for communication, collaboration, and critique. Participants noted their own written communication skills and ability to work in an interdisciplinary manner were key to their professional success, and thus emphasized to learners the importance of writing and navigating collaborative

experiences. This emphasis on written communication skills manifested itself in a variety of ways—from decentralizing critique, to written blog post reflections with each assignment, to using text-based communication to work in asynchronous collaboration. This emphasis on collaborative experiences manifested itself in the complex projects to which participants invited learners. In these shifts participants endeavored to use the internet to provide learners with additional skills to aid them in successful professional practice.

Subquestion 3: Educator Impact. *How does augmenting the studio via the internet alter the educator experience of studio pedagogy?* Again, related to the notion that in studio pedagogy the educator is the master or studio lead, this question seeks to explore the educators own experience of using the internet to extend studio pedagogy. Using the internet masks the physical hand of the educator, replacing it instead with a curated assortment of interfaces, networks, and software. The role of the educator becomes decentralized. This sub question maps most to the first and second traverses: traversing structures and traversing roles. When using the internet to extend studio pedagogy, educators must navigate a pedagogical shift between physical and digital spaces.

Kvan (1997) noted that changing the studio to include more virtual elements, "…changes the relationship between teacher and student, and student and the rest of the world. In this way, it opens up numerous opportunities" (p. 177). In this study, some participants delighted in the ways they no longer have to be the "most important person" and can instead empower learners to build connections, share their own experiences, and teach one another. Other participants enjoyed the greater time balance using the internet

to extend studio pedagogy brought to their teaching practice, but felt that learners became more emotionally distant and disengaged with them through the process. These participants lamented the loss of the energy and the chemistry of the physical studio space. For them, physical proximity predicates presence in a way that digital proximity does not match.

Though time spent in the physical place of studio may decrease when using the internet to extend studio pedagogy, educators noted an increasing sense of presence through computer-mediated, networked means. The shift then is one that moves studio pedagogy from being a pedagogy of physical place, to being more a pedagogy of networked presence. This shift from place to presence happens through extended access to course materials, as well as extended access to the educator herself.

Subquestion 4: Institutional Support. *How are institutions supporting efforts to use the internet to augment and extend studio pedagogy?* This sub question looked to explore the support participants experienced from their institutions. Shifting institutional logistics, particularly shrinking time allotted for studio courses, seemed to be the impetus for many participants to use the internet to extend studio pedagogy. Though many participants noted that institutional logistics caused them to explore ways to use the internet to extend studio pedagogy, ironically, almost all participants noted that their institutions lack online learning initiatives and learning management structures that could support studio pedagogy, thus used their own experience to assemble their own setup. Participants spoke of creating their own websites, setting up their own team communication structures, and hosting their own video resources. Everyone seemed to be experimenting on a grassroots level, taking the initiative rather than waiting for a top

down statement. This sub question maps across all traverses in an equal yet scant manner.

Participant DIY thinking fits with the assertions of Kvan (1997) who noted that techniques for studio pedagogy must, "accommodate the capacities or inadequacies of the technology at hand" (p. 176). From a pre-millennium context, Kvan spoke of the limitations of physical technology. Though in the interim twenty years technology has made impressive strides forward, formalized institutional process can still present a limiting framework. Though institutions are not endorsing practices to aid extending studio pedagogy using the internet, institutions did seem to give participants freedom in experimentation. Participants in turn speculated that as they continue to experiment and iterate their institution would at some point look to codify their practices. Some participants also noted that, because of their commitment to using the internet to extend studio pedagogy, they had become the "informal experts" in their respective departments, and other educators were coming to them for potential ideas and training to use the internet to extend their studio pedagogy.

Summary

Building on the previous methodology chapter, this chapter discussed the findings of this study by identifying the three primary themes developed from the data: "transposing structures," "transforming roles," and "expatiating perspectives." These themes were woven together to form the core category or "traversing." By defining how educators are "traversing structures," "traversing roles", and "traversing perspectives," this core category was then expanded into the substantive theory created from this study, the Replication-Collaboration Continuum. This theory is a helpful way to frame how educators are using the internet to augment and extend studio pedagogy for learners. The

final chapter will discuss the implications for this theory as well as future research potential and study limitations.

Chapter 5: Discussion and Conclusion

Introduction

This final chapter will address both implications for design education, and future research suggestions based on the research questions from this study. Because participant and researcher shared experiences shape grounded theory, this chapter will also provide an overview of limitations which framed this study. These limitations will lead into a discussion of future research areas. This chapter will conclude with a summary of the study.

Theory Reviewed

Studio pedagogy is a signature pedagogy, meaning a pedagogy organized to educate future practitioners in thinking, performing, and acting in a manner consistent with professional, practitioner expectations (Shulman, 2005). Studio pedagogy engrains design process thinking into learners to such an extent that it becomes internalized, thus giving learners a formula to approach professional challenges. Shulman notes that because they have a unique "durability and robustness" (p. 56), signature pedagogies are often slow to change or evolve. Yet, new technologies in general and the internet in particular have opened new opportunity to re-examine studio pedagogy. This re-examination of studio pedagogy, using the internet, was the focus of this study.

The theory that emerged from this study is the Replication-Collaboration Continuum. This model describes the different traverses educators enact when moving from pedagogy, traditionally rooted in a specific place with a specific leader, to one that is increasingly decentralized. These traverses include: transposing physical and digital structures, transforming learner roles to being more about active knowledge construction

than passive receptivity, and changing perspective of the studio itself from being a simple, closed ecosystem to a complex, collaborative environment. Each of these traverses tend to build on one another, representing a traverse along the continuum. The Replication-Collaboration Continuum is the theory that emerges in response to the research question: *How are graphic design educators using the internet to augment and extend studio pedagogy?*

Implications

Three main implications for design education arose from this study. These are: acknowledging technology, positioning learners, and integrating curriculum/program orientation. This section will first discuss each implication, and next tie each implication back to the research subquestions that guided this study.

Implication One: Acknowledging Technology. The first implication of this study is a renewed call to acknowledge the role technology plays in design education. This includes acknowledging the implicit bias inherent in all interface design, and acknowledging the relationship with technology that all participants have within the studio. Acknowledgement happens through assessing the use of both networked and non-networked technology used in studio pedagogy. A renewed call to examine technology impacts pedagogical practices by the educator, because the educator is responsible for demystifying technology present in studio pedagogy. This implication aligns to the first research sub question: *What pedagogical impact do educators perceive comes from extending studio pedagogy via the internet?*

Over the course of this study, several participants mentioned the importance of helping learners consider both the role technology plays in design, and their own

relationship with technology as they design. Critical discussion of technology's implications became part of participant's pedagogical practice. Participants facilitated this discussion by drawing awareness to what is happening underneath the veneer of a designed interface. By analyzing what the creator may have been thinking as they developed the particular interface, participants hoped to demystify interfaces often left unquestioned. Participants endeavored to promote critical thinking with learners, reinforcing the idea that every piece of technology, particularly in the realm of communication technology, is a tool and as such, has an appropriate context and application. The designer's overall job is to act with intention, choosing the right tool for the given task and overall context.

In addition, when using the internet to extend studio pedagogy, technological interfaces become a key part of pedagogical practice. As many participants noted, analysis of the user experiences of technology became a vital discussion point during class. Rather than unquestioningly using technology, participants encouraged learners to consider their own emotional experiences engaging with different interfaces, noting which held a positive experience, which elements contributed, and also which held a negative experience. The technology itself became instructive as it offered learners an opportunity to relate to it as both user and designer.

In this way, using the internet to extend studio pedagogy can become a way to cultivate awareness of the intricacies involved in each technology-mediated interaction. By extending studio pedagogy using the internet, educators can promote an awareness of how technology can be used as a tool with specific functionality, purpose, and fitness. This awareness helps the learner build discernment in tool usage. This discernment is

important because in the words of one participant, *"...every company will have their tool flavor,"* thus working as a designer requires one to be nimble, responsive, curious, and critical.

Implication Two: Positioning Learners. The second implication of this study is the call for a renewed evaluation of the position and role of learners within the studio learning process. This happens through assessing how educators encourage learners to engage with content, define what it means to be a designer, and step into greater self-agency in the learning process. This renewed call to examine the position and role of learners impacts the educator's experience because learners move from a more passive to a more active role. This implication aligns to the third research sub question that guided this study: *How does augmenting the studio via the internet alter the educator experience of studio pedagogy?*

In the 2017 book, *Teaching Design*, Davis notes that design learners are traditionally recipients, rather than framers of investigation (p. 85). Being a recipient is beneficial when beginning the learning process because it helps learners to build confidence. However, continuing in this dependent role means that learners are often under-prepared to engage in a professional world, increasingly marked by complexity. Becoming a framer of investigation requires a learner to define problems under investigation, deconstruct and examine variables at play, and only then come to an understanding of what would be most applicable for the context. Becoming a framer of investigation is a more active role, requiring the learner to be comfortable conducting research on user experience, human behavior, and social systems. Becoming a framer of investigation requires a learner to acknowledge many solutions to any given situation,

shifting mindset from finding the single correct answer, to instead finding the answer that is best in the contextual moment. Relegating learners to the role of a recipient, rather than a framer of investigation, is not due to the conscious intent of educators to keep learners dependent on them for information, or keep learners in a passive role. Instead, as Davis notes, "…pedagogical style is not a conscious choice and faculty simply do what is comfortable without evaluating the ramifications of how they teach" (p. 85). This idea resonated with participants who noted an overall lack of being taught how to teach, so educators often defaulted to their own experience as learners.

When participants used the internet to extend studio pedagogy, they chose to decentralize themselves as the visible leader in the studio. One participant noted that their ultimate desire was to allow learners to view the educator's role as being one that is adjacent to the learner, rather than the one above the learner. This movement opens space for learners to step up and become more intentional about both finding the resources they needed to succeed and collaborating with one another to provide feedback and help. Another participant noted that learners end up leaving her class empowered with not only design skills, but also research skills. Thus, learners are empowered to find the creative solutions they need to execute their design goals.

It is tempting to think that using the internet to extend studio pedagogy and decentralize the educator means the educator's job becomes easier. However, participants noted the opposite occurred. Assuming an adjacent role, often required participants to be more flexible around the learners availability, and answering messages outside of traditional office hours. In addition, assuming an adjacent role required participants to be more flexible around the learners own interests, often learning alongside them as they

work through a design challenge. Opening space for learners to become framers of investigation, requires educators to become comfortable with greater flexibility.

Extending studio pedagogy using the internet also means educators engage in practices that they have not been previously taught. This too shifts educator experience of the studio into the realm of the unknown, instead of what they experienced as a learner. As noted by participants, often these practices emerged from the educators own experiences working in the professional design world. Teaching learners out of their own professional experience rather than their previous pedagogical encounters opens the way for learners to frame their role and identity in a new manner. Studio pedagogy becomes better aligned with contemporary professional practice. This study has shown how using the internet to extend studio pedagogy can enable greater agency among learners.

Implication Three: Curriculum Integration/Program Orientation. The third implication of this study is a call for greater awareness of the hybrid, physical-digital world into the design curriculum, and overall program orientation. This happens through first being aware of ways contemporary life in general, and contemporary design in particular, blurs between physical and digital practices, and next designing pedagogical encounters that support this blurring of spaces. This implication and concurrent reassessment of curriculum integration and program orientation, aligns to the second and fourth research subquestions that guided this study: *What influence does professional graphic design work experience have on the ways educators use the internet to extend studio pedagogy?* and *How are institutions supporting efforts to use the internet to augment and extend studio pedagogy?*

Cezzar (2017) states that, “If half your life is online, half your schooling should

also be about the online world." To support this, Cezzar argues that cross platform thinking should be taught at all levels of the program, enabling learners from the beginning to become comfortable functioning in a complex world. Participants acknowledged the necessity of increasing cross-platform thinking, noting that their own professional graphic design work experience was no longer only about print design or screen design. Instead, design work was "platform agnostic" and participants had to learn to be competent in all arenas. Participants own professional graphic design work experience often formed the foundation of how they chose to use the internet to extend studio pedagogy. Many participants noted using tools they used in professional practice with learners, and used their own personal experience to tell the story of the tool and its potential. Integrating these practices into the curriculum allowed participants to use their courses to give learners a window into how professional practice works, and in so doing give insight into situations learners may encounter in their future.

In contrast to practices engaged in by participants in this study, Cezzar notes that many design programs still retain an overall focus on equipping traditional print-centric designers, or designers comfortable thinking in terms of a single platform. In these programs, curriculum flow has a simple cause and effect relationships between project requirements and output. Each course exists as an independent entity. Courses have no cohesive flow between one another, and learners often cannot make the connection between how skills learned in one course can carry over to another. In this study, several participants concurred with Cezzar's statement and lamented the fragmented state of the overall curriculum in their institution, citing a lack of overall cohesive flow between courses in their programs, and also overall lack of larger program vision.

Because institutions have not yet taken time to formalize their policies or practices regarding using the internet to extend studio pedagogy, decisions were often left to the individual participant to enact. Implementation across the department was neither uniform nor cohesive. When learners were in a participant's course they would be exposed to and become comfortable working in a cross-platform manner. However, when the learner enters a new course, the new educator would once more revert to traditional studio pedagogy, privileging a single platform. As a result, an uneven learner experience ensues. Participants noted that learners often commented on how the participant's class was different in overall feel than other courses they took over the course of their degree. Participants too noted that though they were outspoken in their offers to teach or model practices to others, they were often the only ones in their departments who were using the internet to extend studio pedagogy. Using the internet to extend studio pedagogy brings awareness to emergent changes in design education and practice. Using the internet can become a catalyst to beginning the discussion about overall curriculum flow, program orientation, and philosophy.

Limitations

Though this study has resulted in the creation of knowledge on the nature of how educators are using the internet to extend studio pedagogy, a number of study limitations should be noted. As recognized in the methodology and data collection portion of the study, participants and I used language in order to create social meaning of experiences. Also, following the dictum of constructivist grounded theory (Charmaz, 2006), the findings of this study are an act of interpretation that draws heavily upon my own personal and professional background as a researcher, as a designer, and as a design

educator.

Another limitation is, this research is situated in a unique time and place within the larger design education landscape. It has been my intention to generate a theory of online studio pedagogy that marks this unique era in design education, situated in an ever shifting transition between the strong past foundations of place-based studio pedagogy, and the daily changing reality of a digital present. In addition, this research is situated within both my own personal ontological and epistemological perspective as well as the Symbolic Interactionist lens. Though I have taken measures to reduce personal bias, these filters together have all served to channel what I see as meaningful or coherent within the data itself.

My data collection methods present a limitation in this study. Though interviews and focus groups are seen as being ways to access participant narrative about lived experience, participants may misreport, embellish, or otherwise shift response in order to be consistent with an internal view of themselves (Holloway, 1997). I tried to minimize this tendency amongst participants by reiterating my own commitment to letting the interview be largely directed by participants themselves, rather than directed by me and my own agenda. In addition, I tried to build trust with participants early in the interview by engaging in phatic dialogue, asking them simple questions about their institution and their own design education story.

A further limitation occurs in the construction of the study itself. In this study, participant biographical variables such as age, gender, years of experience as an educator, or years of experience as a professional designer were not taken into account. Neither was the overall effectiveness of online studio pedagogy outcomes as represented in

learner scores or overall course completion rates. Though this would have been interesting data to collect, this would have required the study to take into account and speculate on the differences between each of the variables and further find correlations, rather than have the focus be on creating a conceptual theory.

Finally, this study was limited by its focus on educators only. This study did not attempt to address the learner experience of using the internet to extend studio pedagogy. By focusing exclusively on the educator experience, perception, and motivation this study left unaddressed the other actors and their impact or perceptions of studio pedagogy. Again, this would have been interesting data to collect particularly as a way to compare how educators perceived learner experience with learner experience as reported by learners. However, this too would have required the study to take into account and speculate differences, moving from a conceptual theory into a more comparative or correlational account.

Future Research

This study investigated the motivations of educators who used the internet to extend studio pedagogy. Based on the findings presented, a substantive theory was developed. As Corbin and Strauss (2008) note, substantive theories often form a strong basis for further investigation. One such area that might be explored, is repeating this study with the focus on learners as opposed to educators. One of the research subquestions of this study looked at the pedagogical impact educators perceive that results from extending studio pedagogy via the internet. Another research sub question looked at how using the internet altered the educator's experience of studio pedagogy. Shifting these questions to "what pedagogical impact do *learners* perceive come from

extending studio pedagogy via the internet?" and "how does augmenting the studio via the internet alter the *learner* experience of studio pedagogy?" would give insight into the learner experience. A research study with this focus could further serve to give voice to learners, and in turn help inform future program planning.

Another area for future research would be repeating this study with the focus exclusively on the experience of adjunct or sessional educators. Only one participant in this study identified as working in an adjunct capacity. Because teaching load is only part time, adjunct or sessional educators tend to maintain a more active professional design practice than those who are employed full time in academia. One of the research subquestions of this study sought to explore the influence that professional graphic design work experience has on the ways educators use the internet to extend studio pedagogy. Because adjunct or sessional workers may be more likely to spend a larger portion of their time each week in professional design work, it would be interesting to see how their experience might differ from educators who are tenured or work full-time in academia. As adjuncts that are also working professionals bridge both worlds, a research study with this focus could help provide insight into how the worlds of design education and design professional practice could be better integrated.

Another future research area to explore would be exploring studio pedagogy that has been extended using the internet from a socio-technical perspective, looking specifically at how the technology itself influences communication, tasks enacted, and overall structure of studio pedagogy. Yee (2001) emphasized that a studio's social system has traditionally been a closed network of people, content/processes, events and their organization, and spaces. All of these actors work together in a symbiotic, reciprocal

manner. The inclusion of new telecommunication technologies brings in a new, outside element. This new input alters the ecosystem of the design studio and, depending on the malleability of the technology used, may be the first actor not to be part of traditional studio symbiosis. Yee notes that communication technology is never neutral and always changes the studio in some manner. A research study with this focus could help provide insight into how communication might shift when using the internet to extend studio pedagogy.

In addition, another area to explore for future research would be repeating this study in the context of another design discipline, such as industrial or interior design. These disciplines all share the commonality of studio pedagogy being their primary teaching and learning methodology. Replicating this study in the context of another discipline could provide interesting insight into what parts of the Replication-Collaboration Continuum are replicable to all areas that use studio pedagogy, or if the Replication-Collaboration Continuum is contextually applicable and appropriate only within the realm of graphic design education.

A final area to explore for further research would be enacting a comparison study of the Replication-Collaboration Continuum to other existing technology learning models such as SAMR (Puentedura, 2014) or TPACK (Koehler & Mishra, 2009). Each of these models endeavors to examine how technology might be integrated into the teaching and learning process. Though these models traditionally have been focused on empowering educators in a primary and secondary learning context, their staged learning process shares similarities with the Replication-Collaboration Continuum. Enacting a comparison study might be a way to validate the model created from this study, or provide a means to

further extend one of the former models.

Conclusion

Though the pace and circumstances of contemporary culture are far removed from that of the late nineteenth or early twentieth century, it is still common to think of the education of a creative professional as happening through pedagogical practices that became standardized over one hundred years ago. The artist is a powerful archetype and the sacred studio has a curious alchemy. Though the physical studio space was and continues to play a vital role in shaping graphic designers, increasingly educators are using the internet to augment and extend studio pedagogy. The Replication-Collaboration Continuum, the theory that developed from this study, suggests that educators have a variety of motivations for using the internet to extend studio pedagogy. Some do so for fully practical purposes, such as teaching learners software skills or forming a repository for class materials. Others do so for more complex purposes, using the networked capability of the internet itself to create collaborative relationships, reinforcing in learners their place in a larger distributed and decentralized world. The continuum is a flexible construct. Often educators will shift their methods and motivations depending on their perceptions of learners within any given class.

Though the emergence of computers and the resulting widespread change from design being a physical practice to being an increasingly digital practice happened almost forty years ago, design education continues to exist in a liminal space. This liminal space bridges a strong past tradition with an ever-shifting future. Given the trajectory of the digitization of society in general, it is expected to see greater implementation of digital technology in all sectors of education, including the design studio space (Fleischmann,

2015). Though there have been many calls for more research around online studio teaching and learning practices, there has been scant research done in this area.

This study endeavored to reduce this knowledge gap. The theory that was developed from this study provides a snapshot of a system in transition, a signpost of practices that may be indicative of the future of studio pedagogy and design education. Jones (1970) posits that the effect of designing is to "initiate change in man-made things" (p. 4). As this change always has a future focus, designers must be comfortable working in liminal spaces, often on the edge of tradition or commonly accepted practices. This study documents the experience of just such a group of design educators, noting how they are using the internet to extend studio pedagogy from something traditionally rooted in a specific place and space, to one that is increasingly decentralized. The Replication-Collaboration Continuum with its subsequent traverses across structures, roles, and perspectives, emerged from this study as one approach for using the internet to extend studio pedagogy. This study has contributed a theory, which can aid design educators in decision-making about potential course delivery options. In addition, this study contributes research into the online spaces used in design education, which can continue to inform all spaces of creative arts education.

References

Anthony, K. (1991). *Design juries on trial: The renaissance of the design studio*. New York, NY: Van Nostrand Reinhold.

Argyris, C., & Schön, D. (1974). *Theory in practice: Increasing professional effectiveness*. Oxford, UK: Jossey-Bass.

Austerlitz, N., Vaughn, S., Blythman, M., Grove-White, A., Jones, B., Jones, C., & Shreeve, A. (2009). Mind the gap: Expectations, ambiguity and pedagogy experience in art and design higher education. In L. Drew (Ed.), *The student experience in art and design higher education: Drivers for change* (pp. 125–148). Cambridge, UK: Jill Rogers Associates.

Babbie, E. (2010.) *The practice of social research.* London, UK: Wadsworth Cengage Learning.

Bartlett, D., & Payne, S. (1997). Grounded theory: Its basis, rationale and procedures. In G. McKenzie, J. Powell, & R. Usher (Eds.), *Understanding social research: Perspectives on methodology and practice* (pp. 173-195). London, UK: The Falmer Press.

Bayer, H., Gropius, W., & Gropius, I. (1938). *Bauhaus 1919–1928.* New York, NY: Museum of Modern Art.

Bender, D. M., & Vredevoogd, J. D. (2006). Using online education technologies to support studio instruction. *Journal of Educational Technology & Society*, 9(4), 114–122.

Bennett, A. (2006). *Design studies.* New York, NY: Princeton Architectural Press.

Birks, M., & Mills, J. (2015). *Grounded theory: A practical guide.* London, UK: Sage.

Blair, B. (2006). *Perception interpretation impact: An examination of the learning value of formative feedback to students through the design studio critique* (Doctoral dissertation). Retrieved from http://eprints.ioe.ac.uk/19831/

Blumer, H. (1962). Society as symbolic interaction. In A. M. Rose (Ed.). *Human behavior and social processes* (pp.179-192). New York, NY: Houghton Mifflin.

Blumer, H. (1986). *Symbolic interactionism: Perspective and method.* Los Angeles, CA: University of California Press.

Bogdan, R.C., & Biklen, S. K. (2003). *Qualitative research for education an introduction to theories and methods*. Boston, MA: Allyn and Bacon.

Bowen, G.A. (2009). Supporting a grounded theory with an audit trail: An illustration, *International Journal of Social Research Methodology*, *12*(4), 305-316.

Boyer, E. L., & Mitgang, L. D. (1996). *Building community: A new future for architecture education and practice.* Princeton, NJ: Carnegie Foundation.

Boys, J. (2010). *Towards creative learning spaces: Re-thinking the architecture of post-compulsory education*. New York, NY: Routledge.

Brandt, C., Cennamo, K., Douglas, S., McGrath, M., Reimer, Y., & Vernon, M. (2008, March). *(De)coding the studio method to teach the design of human-computer interaction*. Paper presented at the 24th National Conference on the Beginning Design Student, Atlanta, GA. Retrieved from http://smartech.gatech.edu/bitstream/handle/1853/29133/22-243-1-PB.pdf?sequence=2

Bridges, A. W. (2013). *Identification of perceived 21st century graphic design skills, content knowledge, and tools needed in an effective university-level graphic*

design program (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (Order No. 3588998).

Broadfoot, O., & Bennett, R. (2003). Design studios: online. In *Apple University Consortium Academic and Developers Conference Proceedings 2003* (pp. 9-21). Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.124.3548&rep=rep1&type=pdf

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational researcher*, *18*(1), 32-42.

Brown, S.C., Richard, A., Stevens, J., Troiano, P.F., & Schneider, M.K. (2002). Exploring complex phenomenon: Grounded theory in student affairs research. *Journal of College Student Development*, *43*(2) 1-11.

Buchanan, R. (2001). Design research and the new learning. *Design Issues*, *17*(4), 3-23.

Budge, Kylie. (2013). Virtual studio practices: Visual artists, social media and creativity. *Journal of Science and Technology of the Arts*, *5*(1), 15-23. doi:10.7559/citarj.v5i1.84

Buirge, B. (2013). *Decentralized design management: Managing people and the design process for a geographically dispersed creative team.* (Master's thesis). Retrieved from http://rave.ohiolink.edu/etdc/view?acc_num=kent1365177762

Cennamo, K., & Brandt, C. (2012). The "right kind of telling": Knowledge building in the academic design studio. *Educational Technology Research and Development*, *60*(5), 839-858.

Cezzar, J. (2017). *Juliette Cezzar's refreshingly honest and supremely helpful guide to design education.* Retrieved from https://eyeondesign.aiga.org/juliette-cezzars-refreshingly-honest-and-supremely-helpful-guide-to-design-education/

Charmaz, K. (2000). Constructivist and objectivist grounded theory. In N. K. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 509–535). Thousand Oaks, CA: Sage.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative research.* London, UK: Sage.

Charmaz, K. (2008). Constructionism and the grounded theory method. In J. A. Holstein & J. F. Gubrium (Eds.), *Handbook of constructionist research* (pp. 397-411). New York, NY: The Guilford Press.

Charmaz, K., & Mitchell, R. G. (1996). The myth of silent authorship: Self, substance, and style in ethnographic writing. *Symbolic Interaction*, *19*(4), 285-302.

Charon, J. M. (2010). *Symbolic interactionism: An introduction, an interpretation, and integration* (10th ed.). Boston, MA: Pearson Education, Inc.

Chen, W., & He, Z. (2013). The analysis of the influence and inspiration of the Bauhaus on contemporary design and education. *Engineering*, *5*(04), 323-328.

Chen, W., & You, M. (2008). Student response to an Internet-mediated industrial design studio course. *International Journal of Technology and Design Education*, *20*(2), 151-174.

Cooney, A. (2011). Rigour and grounded theory. *Nurse Researcher*. *18*(4), 17-22.

Corbin, J., & Morse, J. M. (2003). The unstructured interactive interview: Issues of reciprocity and risks when dealing with sensitive topics. *Qualitative Inquiry*, *9*(3), 335-354.

Corbin, J. & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Coser, L. (1977). *Masters of sociological thought: Ideas in historical and social context*. New York, NY: Harcourt Brace Jovanovich.

Crawford, T. (2013). *Foundations of American design education* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (Order No. 3575612)

Creswell, J. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches.* Los Angeles, CA: Sage.

Crotty, M. (1998). *The foundation of social research: Meaning and perspective in the research process.* Thousand Oaks, CA: Sage.

Crowther, P. (2013). Understanding the signature pedagogy of the design studio and the opportunities for its technological enhancement. *Journal of Learning Design, 6*(3), 18-28.

Cuff, D. (1991). *Architecture: The story of practice*. Cambridge, MA: MIT Press.

Daichendt, G. J. (2010). *Artist-teacher: A philosophy for creating and teaching*. Chicago, IL: Intellect Books.

Davis, M. (2008). Toto, I've got a feeling we're not in Kansas anymore… *Interactions, 15*(5). 28-34. doi: 10.1145/1390085.1390091

Davis, M. (2015). *Depth of field: The distance between the nearest and farthest objects in a scene* [Video]. Retrieved from https://www.youtube.com/watch?v=WnzV5UuZiL8

Davis, M. (2017). *Teaching design: A Guide to curriculum and pedagogy.* New York, NY: Allworth Press.

Denzin, N.K., & Lincoln, Y.S. (1994). Entering the field of qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 1–17). Thousand Oaks, CA: Sage.

Dinham, S. (1987, October). *Teaching as design: Theory, research and implications for design teaching.* Revised version of a paper presented at Annual Meeting of the Mid-America Art Association, Minneapolis, MN. Retrieved from http://eric.ed.gov/?id=ED298084

Drucker, J., & McVarish, E. (2008). *Graphic design history: A critical guide*. New York, NY: Pearson Prentice Hall.

Dutton, T. A. (1987). Design and studio pedagogy. *Journal of Architectural Education*, *41*(1), 16-25.

Elkins, J. (1992). Art school critiques as seductions. *Journal of Aesthetic Education*, *26*(1), 105–107.

Fleischmann, K. (2013). Big bang technology: What's next in design education, radical innovation or incremental change? *Journal of Learning Design*, *6*(3), 1-17.

Fleischmann, K. (2015, June). *Democratisation of design and design learning: How do we educate the next-generation designer*. Paper presented at the International

Journal of Art and Sciences (IJAS) Conference, Barcelona, Spain. Retrieved from http://researchonline.jcu.edu.au/41479/

Flew, T. (2008). *New media: An introduction* (3rd ed.). South Melbourne, AU: Oxford University Press.

Frascara, J. (2008). Graphic design: Fine art or social science? In A. Bennett (Ed.), *Design studies: Theory and research in graphic design* (pp. 26-34). New York, NY: Princeton Architectural Press.

Frey, J. H., & Fontana, A. (1989). The group interview in social research. *Social Science Journal*, *28*(1), 175-187.

Fung, M. (2015). Studio-based learning experiences in vocational design education in Hong Kong. *International Journal of Continuing Education and Lifelong Learning*, *7*(2), 71-96.

Gephart, R. (2004). Qualitative research and the Academy of Management Journal. *Academy of Management Journal*, *47*, 454–462.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research.* New York, NY: Aldine de Gruyter.

Gray, C. M. (2013). Factors that shape design thinking. *Design and Technology Education: An International Journal*, *18*(3), 8-20.

Gropius, W. (1965). *The new architecture and the Bauhaus*. Cambridge, MA: The MIT Press.

Groth, C. (2016). Design and craft thinking analyzed as embodied cognition. *Form Akademisk*, *9*(1).

Gruba, P. (2001). *Developing Staff Skills in the Arts.* In G. Kennedy, M. Keppell, C. McNaught & T. Petrovic (Eds.), *Meeting at the crossroads: Proceedings of the 18th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education.* (pp. 225-233). Melbourne, AU: Biomedical Multimedia Unit, The University of Melbourne. Retrieved from www.ascilite.org.au/conferences/melbourne01/pdf/papers/grubap.pdf

Guba, E. G. (1990). *The paradigm dialog*. Newbury Park, CA: Sage Publications.

Hammersley, M., & Atkinson, P. (1995). *Ethnography: Principles in practice* (2nd ed.). London, UK: Routledge.

Heller, S. (2005). *The education of a graphic designer*. New York, NY: Allworth Press.

Hileman, R. (1998). *An introductory lecture for digital designers* [Lecture notes]. Retrieved from http://www.smsys.com/pub/dsgnmeth.pdf

Hokanson, B. (2012). The design critique as a model for distributed learning. In L. Moller & J. Huett (Eds.), *The next generation of distance education* (pp. 71-83). New York, NY: Springer.

Holloway, I. (1997). *Basic concepts for qualitative research*. Oxford, UK: Blackwell Science Ltd.

Hunt, R. (2015). Facing change: Online teaching in a design context. In E. Hodson & B.M. Hejazi (Eds.), *Transformation: The Changing Nature Of Design Education In The 21st Century, 2015 RGD Design Educators Conference Proceedings*, (pp. 25–33). Retrieved from https://www.rgd.ca/2016/12/06/2015-design-educators-conference-proceedings.php

Jackson, A. Y., & Mazzei, L. A. (Eds.). (2008). *Voice in qualitative inquiry: Challenging conventional, interpretive, and critical conceptions in qualitative research*. New York, NY: Routledge.

Jaffee, B. (2005). Before the new Bauhaus: From industrial drawing to art and design education in Chicago. *Design Issues*, *21*(1), 41-62.

Jones, J. C. (1970). *Design methods: Seeds of human futures*. New York, NY: Wiley and Sons.

Kelly, R. R. (2001). The early years of graphic design at Yale University. *Design Issues*, *17*(3), 3–14.

Kenny, M., & Fourie, R. (2014). Tracing the history of grounded theory methodology: From formation to fragmentation. *The Qualitative Report*, *19*(103), 1-9.

King, A. R. (1911). Art versus commercial art. *Advertising & Selling*, *21*(5). 49-53.

King, N., & Horrocks, C. (2010). *Interviews in qualitative research.* London, UK: Sage.

Kitzinger, J., & Barbour, R. S., (1999). Introduction: The challenge and promise of focus groups. In R. S. Barbour & J. Kitzinger (Eds.), *Developing focus group research: Politics, theory, and practice* (pp. 1-20). London, UK: Sage.

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary issues in technology and teacher education*, *9*(1), 60-70.

Koro-Ljungberg, M., Yendol-Hoppey, D., Smith, J. & Hayes, S. (2009). (E)pistomological awareness, instantiation of methods, and uninformed methodological ambiguity in qualitative research projects. *Educational Researcher, 38*(9), 687-699.

Kvan, T. (1997). Studio teaching without meeting: Pedagogical aspects of a virtual design studio. In Y. Liu, J. Tsou, & J. Hou (Eds.), *CAADRIA '97: Proceedings of the Second Conference on Computer Aided Architectural Design Research in Asia*, *2*, 163–177. Retrieved from http://papers.cumincad.org/cgi-bin/works/Show?01e7

Kvan, T. (2001). The pedagogy of virtual design studios. *Automation in Construction*, *10*(3), 345–353.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Littlejohn, D. K. (2011). *Anticipation and action in graduate-level design programs: Building a theory of relationships among academic culture, professional identity and the design of the teaching environment* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (Order No. 3497202).

Lincoln, Y.S. & Guba, E.G. (2005). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Logan, C. (2006). Circles of practice: Educational and professional graphic design. *The Journal of Workplace Learning*, *18*(6), 331-343. doi: 10.1108/13665620 610682062

Logan, C. (2007). Metaphor and pedagogy in the design practicum. *International Journal of Technology and Design Education*, *18*(1), 1–17. doi: 10.1007/s10798-006-9009-x

Lotz, N., Jones, D., & Holden, G. (2015). Social engagement in online design pedagogies. In R. Vande Zande, E. Bohemia, & I. Digranes (Eds.), *Proceedings of the 3rd International Conference for Design Education Researchers* (pp. 1645–

1668). Retrieved from http://oro.open.ac.uk/43592/1/SocialEngagementLxD2015Lotz.pdf

Lupton, E., & Phillips, J. C. (2008). *Graphic design: The new basics*. New York, NY: Princeton Architectural Press.

Madundikwa, S. (2016). "Welcome to the Frontier." Montana State University, Frontier Design Education Conference. Bozeman, MT. (2016, October 7).

Matthews, D., & Weigand, J. (2001). Collaborative design over the Internet. *Journal of Interior Design*, *27*(1), 45-53.

Maxwell, J. (1996). *Qualitative research design: An interpretive approach*. Thousand Oaks, CA: Sage.

McCarthy, J. (2010). Blended learning environments: Using social networking sites to enhance the first year experience. *Australasian Journal of Educational Technology, 26*(6), 729-740.

McCoy, K. (1990). Professional design education: An opinion and a proposal. *Design Issues, 7*(1), 20–22.

McDonnell, J. (2016). Scaffolding practices: A study of design practitioner engagement in design education. *Design Studies*, 45(A), 9-29. doi:10.1016/j.destud.2015.12.006

Meggs, P., & Purvis, A. (2006). *Meggs' history of graphic design*. Hoboken, NJ: John Wiley & Sons, Inc.

Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods*, *5*(1), 25-35.

Mitchell, D. M. (2016). “This is the best lesson ever, Miss. . .”: Disrupting linear logics of visual arts teaching practice. *International Journal of Art & Design Education*, *35*(2). 259-274.

Morgan, D. L. (1997). *Focus groups as qualitative research*. London, UK: Sage.

Morley, M. (2016). The surprising benefits of working with long-distance design partners. *AIGA Eye on Design.* Retrieved from https://eyeondesign.aiga.org/the-surprising-benefits-to-working-with-long-distance-design-partners/

Munson, A., Archer, L., Eanes, E., Garziano, D., & Hutchinson, D. (2016). Shifting directions in the arts: Building quality online courses and degree programs. *International Journal of Information and Education Technology*, *6*(2), 162-165.

Nottingham, A. (2014). *Reshaping design education: Teaching graphic design online and onsite* (Unpublished Master’s thesis). Melbourne, AU: Melbourne Graduate School of Education.

Oshinsky, S. J. (2006). Design reform. In *Heilbrunn Timeline of Art History*. New York, NY: The Metropolitan Museum of Art. Retrieved from http://www.metmuseum.org/toah/hd/dsrf/hd_dsrf.htm

O’Sullivan, N. (2014). Duplicity: The translation of Bauhaus pedagogy into American modernist architectural education. In C. Schnoor (Ed.), *Proceedings of the Society of Architectural Historians, Australia and New Zealand* (pp. 299–308). Retrieved from https://www.academia.edu/7598994/Duplicity_The_Translation_of_Bauhaus_Pedagogy_into_American_Modernist_Architectural_Education

Padgett, D.K. (1998). *Qualitative methods in social work research: Challenges and rewards.* Thousand Oaks, CA: Sage.

Panitz, T. (1999). *Collaborative versus Cooperative Learning: A Comparison of the Two Concepts Which Will Help Us Understand the Underlying Nature of Interactive Learning.* Retrieved from: http://home.capecod.net/~tpanitz/tedsarticles/coopdefinition.htm

Park, H., & Benson, E. (2013). *Systems thinking and connecting the silos of design education.* In E. Bohemia, W. Ion, A. Kovacevic, J. Lawlor, M. McGrath, C. McMahon, & D. Tormey (Eds.), *Proceedings of 15th International Conference on Engineering and Product Design Education.* Retrieved from https://www.academia.edu/10058487/SYSTEMS_THINKING_AND_CONNECTING_THE_SILOS_OF_DESIGN_EDUCATION

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Newbury Park, CA: Sage.

Pektas, S. (2015). The virtual design studio on the cloud: A blended and distributed approach for technology-mediated design education. *Architectural Science Review*. *58*(3), 255-265.

Percy, C. (2004). Critical absence versus critical engagement: Problematics of the crit in design learning and teaching. *Art, Design & Communication in Higher Education Journal*, *2*(3), 143–154.

Peterson, J. F., Frankham, N., McWhinnie, L., & Forsyth, G. (2015). Leading creative practice pedagogy futures. *Art, Design & Communication in Higher Education*, *14*(1), 71-86.

Polanyi, M. (1958). *Personal knowledge*. London, UK: Routledge & Kegan Paul.

Poon, S. T. (2015). Modernisation of graphic design: The possibilities and challenges of digitalisation. *Journal of Graphic Engineering and Design*, *6*(1), 5-9.

Puentedura, R. R. (2014). *SAMR and TPCK: A hands-on approach to classroom practice* [PDF document]. Retrieved from http://www.hippasus.com/rrpweblog/archives/2012/09/03/BuildingUponSAMR.pdf

Raleigh, H P. (1968). Johannes Itten and the background of modern art education. *Art Journal*, *27*(3), 284-302.

Richburg, J. E. (2013). *Online learning as a tool for enhancing design education* (Master's Thesis). Kent, OH: Kent State University. Retrieved from https://etd.ohiolink.edu/rws_etd/document/get/kent1368532104/inline

Salama, A. M., & Wilkinson, N. (2007). Introduction: Legacies for the future of design studio pedagogy. In A. Salama & N. Wilkinson (Eds.), *Design studio pedagogy: Horizons for the future* (pp. 3-8). Gateshead, UK: The Urban International Press.

Salazar, S. (2013). Laying a foundation for artmaking in the 21st century: A description and some dilemmas. *Studies in Art Education: A Journal of Issues and Research in Art Education. 54*(3), 256-259.

Salazar, S. (2013). Studio interior: Investigating undergraduate studio art teaching and learning. *Studies in Art Education, 55*(1), 64-78.

Saunders, M. (2000). Understanding education and work: Themes and issues. In R. Moon, B. Pereetz & M. Brown (Eds.), *The international encyclopedic dictionary of education* (pp. 1003-1029). London, UK: Routledge.

Schön, D. (1983) *The reflective practitioner: How professionals think in action*. New York, NY: Basic Books.

Shaughnessy, A. (2013). *The State of Design Education*. Creative Bloq Website. Retrieved from http://www.creativebloq.com/state-design-education-8133968.

Shulman, L. (2005). Signature pedagogies in the professions. *Daedalus*, *134*(3), 52–59.

Siegel, M. A., & Stolterman, E. (2009). Metamorphosis: Transforming non-designers into designers. In D. Durling, C. Rust, L. Chen, P. Ashton, & K. Friedman (Eds.), *Undisciplined! Proceedings of the Design Research Society Conference 2008*, Sheffield, UK: Sheffield Hallam University. Retrieved from http://shura.shu.ac.uk/449/1/fulltext.pdf

Sikolia, D., Biros, D., Mason, M., & Weiser, M. (2013). Trustworthiness of grounded theory methodology research in information systems. In *MWAIS 2013 Proceedings*. Retrieved from http://aisel.aisnet.org/mwais2013/16

Sims, E., & Shreeve, A. (2012). Signature pedagogies in art and design. In N. Chick, A. Haynie, & R. Gurung (Eds.), *Exploring more signature pedagogies: Approaches to teaching disciplinary habits of mind* (pp. 55–68). Sterling, VA: Stylus.

Taylor, S. S. (2008). Effects of studio space on teaching and learning: Preliminary findings from two case studies. *Innovative Higher Education*, *33*(4), 217–228.

Souleles, N. (2011). *Elearning in art and design: Perceptions and practices of lecturers in undergraduate studio-based disciplines and the rhetoric of innovative practices* (Doctoral dissertation). Available from ProQuest Dissertations & Theses Global. (Order No. 10064675).

Souleles, N. (2015). *Elearning in art and design: The elephant in the room*. In L. G. Chova, A.L. Martinez, & I. C. Torres (Eds.), *Proceedings of INTED2015 9th International Technology, Education, and Development* (pp. 6659–6665). doi: 10.13140/2.1.4686.5440

Souleles, N. & Saava, S. (2015). *Sources of informal learning and undergraduate graphic design students: A grounded theory approach*. *Proceedings of EDULEARN15 7th International Conference on Education and New Learning Technologies* (pp. 6974-6981). Retrieved from https://www.researchgate.net/publication/280095347_SOURCES_OF_INFORMAL_LEARNING_AND_UNDERGRADUATE_GRAPHIC_DESIGN_STUDENTS_A_GROUNDED_THEORY_APPROACH

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

Suddaby, R. (2006). From the editors: What grounded theory is not. *Academy of Management Journal*, *49*(4), 633–642.

Swann, C. (2002). Nellie is dead. *Art, Design & Communication in Higher Education*. *1*(1), 50-53.

Swanson, G. (1994). Graphic design education as a liberal art: Design and knowledge in the university and the "real world". *Design Issues*, *10*(1), 53–63.

Tan, J. (2010). Grounded theory in practice: Issues and discussion for new qualitative researchers. *Journal of Documentation*, *66*(1), 93-112.

Taylor, M. J., & McCormack, C. (2006). *Creative critique in visual communication: Effective feedback in design projects through voice-centred studio-based*

communication and online delivery. In S. Baker & S. Fereday (Eds.) *Proceedings of Thinking the future: Art, design and creativity: The 2006 Australian Council of University Art and Design Schools (ACUADS) Conference* (pp.1-11). Retrieved from https://www.researchgate.net/publication/242239966_Creative_Critique_in_Visual_Communication_Effective_Feedback_in_Design_Projects_Through_Voice_Centred_Studio-Based_Communication_and_Online_Delivery

Thomson, E. M. (1997). *The origins of graphic design in America, 1870–1920*. New Haven, CT: Yale University.

Urquhart, K. (2012). *Grounded theory for qualitative research: A practical guide*. London, UK: Sage.

Vining, P. F. (2007). *Dr. Frankenstein was a designer: Methods for educating gen H—the hybrid design student* (Master's thesis, Louisiana State University). Retrieved from https://digitalcommons.lsu.edu/cgi/viewcontent.cgi?article=2247&context=gradschool_theses

Vossen, C. (2013). Idea. *Bauhaus-Archiv Museum fur Gestaltung.* Retrieved from http://www.bauhaus.de/en/das_bauhaus/44_idee/

Webster, H. (2007). The analytics of power representing the design jury. *Journal of Architectural Education*, *60*(3), 21-27.

Webster, H. (2004). Facilitating critically reflective learning: Excavating the role of the design tutor in architectural education. *Art, Design & Communication in Higher Education*, *2*(3), 101 -111.

Willig, C. (2008). *Introducing qualitative research in psychology* (2nd ed.). Berkshire, UK: Open University Press.

Winton, A. (2016). The Bauhaus, 1919-1933. In *Heilbrunn Timeline of Art History*. New York, NY: The Metropolitan Museum of Art. Retrieved from https://www.metmuseum.org/toah/hd/bauh/hd_bauh.htm

Yee, S. (2001). *Building communities for design education: Using telecommunication technology for remote collaborative learning* (Doctoral thesis, Massachusetts Institute of Technology). Retrieved from http://hdl.handle.net/1721.1/8749

Zhang, Y., & Wildemuth, M. B. (2009). Unstructured Interviews. In B. Wildemuth (Ed.) *Applications of social research methods to questions in information and library science* (pp. 222-231). Westport, CT: Libraries Unlimited.

Appendix A: Letter of Information

LETTER OF INFORMATION

The Transient Spaces of Studio Learning: Building a Theory of Online Studio Pedagogy in Graphic Design Education

June 9, 2017

Principal Investigator (Researcher):
Lisa Hammershaimb
Lisa.hammershaimb@gmail.com

Supervisor:
George Siemens
gsiemens@gmail.com

You are invited to take part in a research project entitled *The Transient Spaces of Studio Learning: Building a Theory of Online Studio Pedagogy in Graphic Design Education.*

This form is part of the process of informed consent. The information presented should give you the basic idea of what this research is about and what your participation will involve, should you choose to participate. It also describes your right to withdraw from the project. In order to decide whether you wish to participate in this research project, you should understand enough about its risks, benefits and what it requires of you to be able to make an informed decision. This is the informed consent process. Take time to read this carefully as it is important that you understand the information given to you. Please contact the principal investigator, Lisa Hammershaimb, if you have any questions about the project or would like more information before you consent to participate.

It is entirely up to you whether or not you take part in this research. If you choose not to take part, or if you decide to withdraw from the research once it has started, there will be no negative consequences for you now, or in the future.

Introduction
My name is Lisa and I am a Doctor of Education in Distance Education student at Athabasca University. As a requirement to complete my degree, I am conducting a research project about how graphic design educators are using the internet to extend their studio learning spaces. I am conducting this project under the supervision of Dr. George Siemens.

Why are you being asked to take part in this research project?
You are being invited to participate in this project because you are a design educator who is currently using the internet in interesting ways to extend your studio space as you teach graphic design.

What is the purpose of this research project?
Graphic design has traditionally been taught in face-to-face studio spaces and physical proximity has been thought to be a key element in teaching. The purpose of this research is to explore how one can navigate, manage, and sustain studio pedagogy and the studio community when using the internet to extend spaces.

What will you be asked to do?

As part of this study you will be asked to participate in one required interview and an optional focus group. Both the interview and focus group are estimated to each last one-hour each in length. The interview will be arranged for a time that is convenient to your schedule and will take place via Zoom, a free videoconference software platform. The optional focus group will be arranged for a time that is convenient for each participant and will also take place via Zoom.

Within one week after the interview, you will receive a transcript via email and will be given the opportunity to alter/clarify any comments. Within one week after the focus group, each participant will also receive a transcript via email and will be given the opportunity to alter/clarify any comments. In both circumstances, you will have one week to send any changes or updates back to the researcher.

What are the risks and benefits?
It is anticipated that participation in this study involves minimal risk. The main benefit of participation in this study is the chance to contribute to the development of knowledge in the field of graphic design education.

Do you have to take part in this project?
As stated earlier in this letter, involvement in this project is entirely voluntary. If you decide at any point that you would like to withdraw your participation from this study (for example, leave an interview or focus group early) you may do so without any consequence. If you choose to terminate participation, all your information (both recorded and transcript data) will be destroyed immediately.

If you choose to withdraw from the study after it has concluded, your data (both recorded and in transcript form) will be removed up until November 1, 2017. It is anticipated that the final dissertation analysis will be in process at this point thus it will no longer be possible to remove data.

How will your privacy and confidentiality be protected?
The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use or disclosure. Your identity as a participant will be held in strict confidence and both your name and institutional affiliation will be withheld from the final dissertation.

If you choose to participate in a focus group, your identity will be known amongst other participants however personally identifying information such as name and institutional affiliation will be removed during the transcription process.

How will my anonymity be protected?
Anonymity refers to protecting participants' identifying characteristics, such as name or description of physical appearance. Every reasonable effort will be made to ensure your anonymity; you will not be identified in publications without your explicit permission. Though anonymity cannot be guaranteed if you choose to participate in a focus group, all data obtained from participation will be reported without identifiers or with a pseudonym, should you desire.

How will the data collected be stored?
All data gathered during this study will be stored in a password protected, secure, external hard drive that is not cloud based. Data will be kept for five years after the completion of the study. After this point it will be destroyed and the hard drive will be reformatted to its factory settings.

Lisa Hammershaimb, the researcher, will be the only person who has access to data from the research project.

Who will receive the results of the research project?
The results of this research project will be disseminated in written format. Though reporting will occur primarily in aggregate or summarized form, direct quotations or personally identifying information (with permission only) will be reported as well.

In addition, the existence of the research will be listed in an abstract posted online at the Athabasca University Library's Digital Thesis and Project Room and the final research paper will be publicly available.

Who can you contact for more information or to indicate your interest in participating in the research project?
Thank you for considering this invitation. If you have any questions or would like more information, please contact me, (the principal investigator) by e-mail at lisa.hammershaimb@gmail.com or my supervisor by email at gsiemens@gmail.com.

Thank you.

Lisa Hammershaimb

This project has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this project, please contact the Research Ethics Office by e-mail at rebsec@athabascau.ca or by telephone at 1-800-788-9041, ext. 6718.

Appendix B: Consent Form

PARTICIPANT CONSENT FORM

The Transient Spaces of Studio Learning: Building a Theory of Online Studio Pedagogy in Graphic Design Education

Principal Researcher:
Lisa Hammershaimb
Lisa.hammershaimb@gmail.com

Supervisor: (if applicable
George Siemens
gsiemens@gmail.com

You are invited to participate in a research study how one can navigate, manage, and sustain studio pedagogy and the studio community when using the internet to augment studio spaces. I am conducting this study as a requirement to complete my Doctor of Education in Distance Education.

As a participant, you are asked to take part in one required interview and an optional focus group about how you are currently using the internet to extend your studio learning space. All interviews and focus groups will take place via Zoom videoconference software. Participation in each element will take approximately one hour of your time.

It is anticipated that participation in this study involves minimal risk. The main benefit of participation in this study is the chance to contribute to the development of knowledge in the field of graphic design education. Involvement in this study is entirely voluntary and if at any time you become uncomfortable, you may refuse to answer any questions or share information. In addition, you may withdraw from the study at any time during the data collection period by notifying me that you no longer wish to participate. All data collected up to that point will be destroyed. Within one week after the interview, you will receive a transcript via email and will be given the opportunity to alter/clarify any comments. Within one week after the focus group, each participant will also receive a transcript via email and will be given the opportunity to alter/clarify any comments. In both circumstances, you will have one week from the date received to send any comments or clarifications.

Results of this study will be disseminated in written format and will be available to participants and the public through Athabasca University Library's Digital Thesis and Project Room.

If you have any questions about this study or require further information, please contact Lisa Hammershaimb or Dr. George Siemens using the contact information above.

This study has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this study, please contact the Office of Research Ethics at 1-800-788-9041, ext. 6718 or by e-mail to rebsec@athabascau.ca.

Thank you for your assistance in this project.

CONSENT:
I have read the Letter of Information regarding this research study, and all of my questions have been answered to my satisfaction. I will keep a copy of this letter for my records.

My signature below confirms that:

- I understand the expectations and requirements of my participation in the research;
- I understand the provisions around confidentiality and anonymity;
- I understand that my participation is voluntary, and that I am free to withdraw at any time with no negative consequences;
- I am aware that I may contact the researcher, or the Office of Research Ethics if I have any questions, concerns or complaints about the research procedures.

Name: _____

Date: _____

Signature: _____

By initialing the statement(s) below,

_____ I am granting permission for the researcher to use an audio recorder

_____ I am granting permission for the researcher to use a video recorder

_____ I acknowledge that the researcher may use specific quotations of mine, without identifying me

_____ I would like to receive a copy of the results of this research study by email.

e-mail address:
_____

If you are willing to have the researcher contact you at a later time by e-mail or telephone for a brief conversation to confirm that I have accurately understood your comments in the interview, please indicate so below. You will not be contacted more than six months after your interview.

_____ Yes, I would be willing to be contacted.

Appendix C: Ethics Review Board Letter of Approval

CERTIFICATION OF ETHICAL APPROVAL

The Athabasca University Research Ethics Board (AUREB) has reviewed and approved the research project noted below. The AUREB is constituted and operates in accordance with the current version of the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS)* and Athabasca University Policy and Procedures.

Ethics File No.: 22589

Principal Investigator: Lisa Hammerschaimb

Supervisor (if applicable): George Siemens

Project Title: 'The Transient Spaces of Studio Learning: Building a Theory of Online Studio Pedagogy in Graphic Design Education'

Effective Date: May 24, 2017 **Expiry Date**: May 23, 2018

Restrictions:

- Any modification or amendment to the approved research must be submitted to the AUREB for approval.
- Ethical approval is *valid for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.
- A Project Completion (Final) Report must be submitted when the research is complete *(i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable))* or the research is terminated.

Approved by: **Date: May 24, 2017**

Debra Hoven, Chair
Centre for Distance Education, Departmental Ethics Review Committee

---

Athabasca University Research Ethics Board
University Research Services, Research Centre
1 University Drive, Athabasca AB Canada T9S 3A3
E-mail: rebsec@athabascau.ca
Telephone: 780.675.6718