My research and original creative work progress along two distinct paths that together explore the 'doing' of interior design: 1) the analysis of and instruction in hand sketching skills through the cognitive framework of expertise theory relative to the notion of thinking through drawing, and 2) explorations into the perceptions, motivations, and expertise of why some architects choose to practice interior design. While unique in their own particular bodies of knowledge and application, they share a common theme of facilitating idea generation, documentation, and communication whether it is through an individual expertly employing graphic techniques and methods to express thought or through assuming a specific role of design service in order that design intent is more clearly conveyed. My research and original creative work lean on the broad and rich experiences I accumulated as a practicing design professional as they apply to the growth and development of young interior designers and my love and mastery of hand sketching and drawing as they support critical and creative thinking and communication.

My primary research interest focuses on the notion of thinking through drawing - graphic facilitation, mediation, and communication of ideas through hand-drawing techniques. Among the many skills that interior designers and architects must possess is the ability to visually communicate ideas effectively. Often this means imparting ideas to others quickly and accurately so that intent is conveyed well. For a skilled professional, design intent is often illustrated in real time and without delay. From abstract ideas that illustrate shape, form, mass, scale and proportion to on-the-fly perspective sketches that communicate the look and feel of an unbuilt interior space, thinking and drawing are essentially happening at the same time. In contrast to expert behaviors, students often struggle to sketch quickly and accurately. While the sketches may represent the student's ideas, they can often suffer in their success with regard to accuracy, scale, depth, and context. The student lacks the requisite skills to adequately describe his or her own thoughts. As a result, students can develop an anxiety about sketching, or convince themselves they will never learn this skill. It is here that instructional maxims need to merge with instructor expertise, energy, and encouragement so that the student remains engaged, building confidence through competency and proficiency in their ability to communicate through the tools of the trade – drawing and sketching.

Hand drawing and sketching reinforces the notion that the hand – the 'high touch of high tech' - is still a vital tool in communicating, of expressing who we are, be it an architect, designer, educator, or just a human being. My creative activity is both the seed generator and the logical extension of my research. It is rooted in the simple act of sketching – just plain old drawing by hand. My ability to graphically communicate any and all kinds of information to diverse audiences through a variety of media has been and still is a hallmark of my entire life. From journal paper to sketch pads to napkins, my work as an educator has been featured and/or exhibited in juried competitions at the Universidad of Monterrey in Monterrey, Mexico, Montana State University, Oklahoma State University, and Architectural Record, the seminal magazine for architects and architecture. As a practicing professional, my conceptual sketches in the formative stages of designs for hotels, restaurants, conference centers, spas, and other hospitality related work set the table for more focused design development by my design teams. These drawings (and projects) succeeded in that idea communication between architect, designer, contractor, consultant and client was clear, concise, and complete. Not only is this important in

the profession, it is paramount that a design student develop and master these skills during the foundational years of their education.

Undergirding my original research (and at the same time informing my teaching methods and supporting my creative work) is the analysis of and instruction in hand sketching skills through the cognitive framework of expertise theory. Expertise theory has been widely examined in the context of many different types of tasks. However, research specifically aimed at studying the application of expertise theory to design sketching is limited. Expertise theory may explain why people who are experts in sketching can do so fluidly and without loss of speed or accuracy while they engage in a second task simultaneously, such as explaining the scene they are drawing to someone else. It may also help explain how experts in sketching engage in this act without actively thinking about it to communicate an idea. These are positive traits in that they seamlessly integrate sketching into their overall design process, enabling a powerful visioning tool to assist and influence design decision-making and communication. In education, understanding and applying aspects of expertise theory to sketching by hand may increase the possibility that a student will be more likely to engage in the process of design, take part in the consummation of an idea, and claim a measure of design ownership when participating in the creative process.

It is my belief that these ideas need expanded discovery and analysis. To that end, I am engaged in research exploring drawing and expertise theory and the application of those findings to graphic instruction. My initial undertaking was a co-authored paper presentation to relevant colleagues at the 2013 Thinking Through Drawing Conference at Columbia University in New York attended by members of the Drawing Research Network. More specific research exploring Dreyfus' "competency stage" in sketching has been presented at the 2014 Interior Design Educators Council Conference in New Orleans and a paper addressing sketching at Dreyfus' (2005) "advanced beginner" stage will be presented at the Design Communication Association's 2014 fall conference in Atlanta, Georgia. That paper includes further integration of Ericsson's (Ericsson, Charness, Feltovich, & Hoffman, 2006) theory of "deliberate practice" and Gladwell's (2008) notions surround singular events and moments in a student's life that may be pivotal in their sketching development. Integrated with teaching, my research also aims to prompt discussion and potentially help other instructors understand why students sometimes think and struggle the way they do with the complex cognitive task of sketching. My position advocates that design instructors could benefit from teaching sketching skills through the cognitive framework of expertise theory. Doing so may help them better understand their student's successes and failures as they practice sketching, and may help them adjust their classroom strategies to better ensure sketching success in their students.

My secondary line of research is deeply engaged with the nature of design and architecture practice. Specifically, I seek to understand why some architects choose to practice interior design. Current literature and discussions (those published and those available through social/professional media) regarding this subject yield little more than the occasional professional journal editorial protesting the perceived turf battles between architects and interior designers as they apply to design services. Other literature highlights the contentious discussion on the regulation of architecture and interior design via state legislation and registration and the arguments put forth by the entities representing each group. These are rather broad issues that

typically do not address the underlying reasons individuals choose to practice one or the other before they ever reach the workplace. The goal of my research in this area is to better educate both the profession and the public regarding professional design services, and to promote a more dynamic relationship between architects and interior designers.

Funded by my First Year Assistant Professor Grant, I completed an initial research study and query of architects that choose to practice interior design. Using a combination of survey and interview methods as well as the limited written and online information available, my research investigated the broad viewpoint and rich, individual perspective of this phenomenon. The results and analysis of the data are scheduled for publication in the *Journal of Architectural and Planning Research* in fall 2014. Survey responses indicate that there is still a great deal of uncertainty in how architects perceive their role in interior design (or as interior designers). Architects that practice interior design report varied motivations and expertise that appear to reinforce a traditional perception of architecture as inherently including interior design. The study's findings support prior anecdotal evidence that architects practicing interior design can have the effect of confusing the general public, perhaps even "producing a disparity of clearly defined roles and services for the comprehensive design of an interior environment" (Hildebrandt, 2004).

There is pervasive practice of interior design by architects; nonetheless, this study is the first of its kind. The study's literature review and findings suggest that more clearly defined professional roles will only strengthen the practices of architecture and interior design. Clarity in this issue could inform architects, interior designers, clients, and educators alike about its opportunities and pitfalls. Greater understanding can motivate architects to further their education in interior design, acquire additional professional expertise with continuing education coursework, or perhaps it will encourage some architects to entrust this service to interior design professionals. As an architect teaching interior design, I am keenly interested in shedding light on this situation so that my own pedagogical formations are better informed by researched professional insight. Research results will be invaluable in assisting mine and other design instructors' abilities to relate the reality of professional design practice to a student's experience in design studio. As noted earlier, I believe the gap between professional practice and design education is still prevalent in the industry. Aligning this research with my teaching and creative activity will allow me to participate in either narrowing the gap or filling it in, whichever is most effective, takes the least amount of time, and creates the greatest understanding of and participation by a developing professional in the practice of interior design.

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