

REFLECTION ON THE PURSUIT OF PROFESSIONAL ARCHITECTURAL IDENTITY:
STUDY ABROAD, CREATIVITY, AND THE PROFESSIONAL
EDUCATION OF ARCHITECTURE

by

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DEDICATION

I dedicate this work to my family, friends, and colleagues that supported, encouraged, and endured through the entire process; my husband, Benny, for being my constant even when he did not understand what was driving me; my daughters, Diana and Lori, for their support and encouragement to chase my dreams; my mom for the many hours listening and encouraging; my dad, Bill, for the lessons in humility and hard work; my step-dad, Claude, and father, Don, for being supportive and consistent through the process; and last, but definitely not least, to my beautiful grandchildren, Micah, Liam, and, soon-to-be, Corbin, for your love, laughter, and continual reasons to work hard and aim high.

Only as high as I reach can I grow,
Only as far as I seek can I go,
Only as deep as I look can I see,
Only as much as I dream can I be.

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LIST OF ABBREVIATIONS

Abbreviation	Description
BIM	Building Information Modeling
CO	Theory of Cognitive Orientation (Kreitler & Kreitler, 1987)
CoP	Community of Practice
IPA	Interpretative Phenomenological Analysis (Smith, Flowers, & Larkin, 2009)
SA	Study abroad
ZPD	Zone of Proximal Development (Vygotsky, 1986)

ABSTRACT

Architecture incorporates art and science with the discipline, skills, and theoretical grounding that enable an architect to produce a structure that creatively joins the requirements of the client, culture, time period, location, materials, and technology. An architectural education program has the intention to prepare a student through creative exploration of the discipline's knowledge and skills to assist their transition to the professional career of architecture. As students enter their studies, they are entering a community of practice (CoP), as coined by Lave and Wenger (1991), where individual, cultural, academic, and professional components of a work and learning community are joined in a continually evolving loop of action, learning, and reflection that affect each other. This training, however, would be missing the greater mission of architecture and its impact on society at large if the curriculum did not challenge students to reach beyond their own cultural experiences, neighborhoods, and cities. These personal perspectives are but elementary components woven into the training students receive as they hone their design skills during their architectural studios. As limited as their cultural foundation might be, traveling to expand their experience and knowledge is an intrinsic component of architectural education. Thus, this research explores the underlying elements that define what is known as the architectural profession, the acquisition of professional identity and creative abilities, and the common themes formed by the complex relationships and historic practices of the architectural CoP by analyzing the participants' reflections of their study abroad experience. This focus on the professional

identity is important in today's time, because this definition, understood for centuries, is now being questioned.

I. INTRODUCTION

Architecture incorporates art and science with the discipline, skills, and theoretical grounding that enable an architect to produce a structure that creatively joins the requirements of the client, culture, time period, location, materials, and technology, into, as expressed by Swiss architect, Mario Botta (1998), "the constructed expression of history that reflects the tensions and aspirations of a society" (p. 9). An architectural education program has the intention to prepare a student through creative exploration of the discipline's knowledge and skills to assist their transition to the professional career of architecture. As students enter their studies, they are entering a community of practice (CoP), as coined by Lave and Wenger (1991), where individual, cultural, academic, and professional components of a work and learning community are joined in a continually evolving loop of action, learning, and reflection that affect each other. The architectural profession relies on the educational component to train students in the basic design elements, creativity, language of architecture, reflective practice, and critical thinking via the studio experience. Evolved from the historical master/apprentice system and aligned with Lev Vygotsky's (1986) "zone of proximal development" (ZPD), the studio experience stresses application of supporting course content in designing the studio project under the tutelage of the instructor that guides student skills and values while promoting design, critical reflection and open dialogue (Glasser, 2000; Teal, 2011). In this pressurized environment, all components are selected, combined, filtered, and reflected upon as other supplementary courses contribute knowledge and research from other disciplines that are synthesized to creatively respond to the architectural project

assignment in a quick graphic fashion. Hence, studio is the lab where the architect practices the art of synthesis.

This training, however, would be missing the greater mission of architecture and its impact on society at large if the curriculum did not challenge students to reach beyond their own cultural experiences, neighborhoods, and cities. These personal perspectives are but elementary components woven into the training students receive as they hone their design skills during their architectural studios. As limited as their cultural foundation might be, traveling to expand their experience and knowledge is an intrinsic component of architectural education. An example of the impact of traveling can be seen in the Roman Emperor Hadrian's (117-138 C.E.) re-creations of architectural monuments he experienced in his travels at his villa in Tivoli, Italy. Another traveler, Villard De Honnecourt, in 13th century France created travel sketchbooks that captured architectural elements and techniques of the time (Britannica, 2013). The act of capturing these memories, in building and sketch, is an example of learning through experience with the environment and connects with Vygotsky's (1978) assertion, "man personally influenc[es] his relations with the environment and through that environment personally chang[es] his behavior" (p. 46). Architects for centuries have understood the importance of a more global education where experiences and interactions with different cultures expand one's architectural language and skill (Boyer & Mitgang, 1996, pp. 77-78), as well as, "the perspective needed in a global, multicultural society" (p. 78). More importantly, these experiences accelerate the growth of the individual in awareness of "global diversity... [and] intercultural responsiveness" (Coryell, 2011, p. 4) as it adds holistic attributes to the person's personal, academic, and professional self (Brux & Fry, 2009; Michigan State University, 2014). Exposure to current trends of architecture and

technology is readily accessible now via the internet, but the experience of "being" in a space is a vital component to design (The Cooper Union, 2013; Virginia Tech, 2013) as architecture impacts all of our senses. Knowing this, architectural programs around the world promote study abroad (SA) programs to expose students to these vital experiences.

This research explores the underlying elements that define what is known as the architectural profession, the acquisition of professional identity and creative abilities, and the common themes formed by the inter-relationships between the architectural CoP by the analysis of the participants' reflections of their SA experiences. This focus on the professional identity is important in today's time, because this definition, understood for centuries, is now being questioned.

Statement of the Problem

In the United States, the professional organization of the American Institute of Architects hired a marketing firm (Sloverlinett, 2012) to rebrand and conduct a national poll about the need to reposition the profession to the public. The report reflects a positive public opinion on the contributions architects make, but identifies a need to "educate the public on the value and accessibility of architects" (p. 7). Referencing this poll, Justin Shubow's (2015) opening statement that "architecture is suffering a crisis of confidence" encapsulates the premise that the profession is searching for its' professional identity. Is this "crisis of confidence" internal or external to the profession? Do architects question their own value or profession? Or is it the fragmenting of the historical domain of architecture and the encroachment of parallel professions such as engineering, construction, urban planning, and interior design that has created this need?

Per Wang and Ilham's (2009) research, the professional identity of an architect is intrinsically linked to his/her creative ability. This connection begins as students pursue

the professional degree of architecture where the academic setting of architectural studio promotes creativity and other important attributes that students acquire as they are being groomed to step into the professional world (Virginia Tech, 2013). Recognized as the means to obtain a more intense and compressed experience of increased creativity (Maddox & Galinsky, 2009), SA programs also promote academic, intercultural, personal, and professional development. Thus, SA is intentionally promoted by 100% of the 2013 top 20 architectural programs in the U.S. (Rosenfield, 2012). American architectural academic programs offer, if not require, as Penn State, Cornell, and Notre Dame do (Penn State, 2013; Cornell University, 2013; University of Notre Dame, 2013), that their students participate in academic semesters abroad to immerse them in the actual cultural experience as they acquire the foundation, history and skill sets of the architectural profession. Thus laying the groundwork by investigating the complex relationships and historic practices of the architectural CoP, this research has been designed to use the lens of SA with its high regard in the field to identify the complexity of professional architectural identity.

Purpose of the Study

As stressed on the webpages of many university architectural programs, the SA experience is a key element in the education of the professional architect. It enables students to experience different perspectives of architectural pedagogy that strengthen their skills as they enhance their global perspective and experience cultural exchange (Virginia Tech, 2013). It is this “multicultural learning [that Maddux, Adam, and Galinsky’s (2010) research note as]... a critical component of increased creativity” (p. 731). As they note, culture is embedded during development of a person and becomes “deeply ingrained and automatized... potentially impairing novelty and innovation...

Thus, culture serves both as a coordination device and as a constraint on thought and behavior” (p. 731). Exposure to multicultural experiences that challenge the person’s embedded culture “enhance cognitive complexity and flexibility, heightening the ability to approach problems from new and multiple perspectives and ultimately enhancing the creative process” (p. 738). This social development of individuals concurs with Vygotsky’s (2004) research where he identified the creative act and its product propelling the creator into the future by the development of his/her imagination. Creativity is an important component facilitating success in the architectural profession and its identity; thus research recommending how it can be increased is necessary and beneficial to the profession. The purpose of this investigation and the research questions that follow are to clarify and seek a better understanding of practicing architects’ perceptions of the impact of studying abroad on their professional identity, practice, and creativity.

Research Questions

Research Question 1: For practicing architects, what is the perceived impact of SA program participation on their professional identity, practice, and creativity?

Research Question 2: How does the synergistic influence of SA impact professional architectural identity?

Research Positionality

The epistemological framework for this research is constructivism.

Constructivism acknowledges the social construction of knowledge where humans co-create knowledge and “invent concepts, models, and schemes to make sense of experience and, further,... continually test and modify these constructions in the light of [the] new experience” (Schwandt, 1994, p. 126). Emphasizing this social construct, Lev Vygotsky, a Russian psychologist, originated the “sociocultural theory of higher mental

processes... [that relates the] mechanism by which culture becomes a part of each person's nature" (Cole & Scribner, 1978, p. 6). His developmental theory argued that the mental development of humans requires social dialogue and a mentor that instills verbal and action lessons in the formation of the student's inner voice that evolves into mastery of content (Vygotsky, 1986). He further clarified,

the general law of development says that awareness and deliberate control appear only during a very advanced stage in the development of a mental function, after it has been used and practiced unconsciously and spontaneously. In order to subject a function to intellectual and volitional control, we must first possess it.
(p. 168)

Vygotsky stressed that the cognitive maturity of the person that creates self-regulation and increased creativity is propelled by social interactions. Thus, the individual's personal and creative development is described by Vygotsky (2004) as propelling the creator into the future by the development of his/her imagination. This relationship of teacher-student/master-apprentice continues through architectural education into the profession. As the teacher works with student in obtaining mastery of creative content, language, and skills in the academic studio culture, so too does the architect in the professional studio environment train the intern architect in the aspects of architectural practice and culture. This dynamic matures as mastery is obtained in each developmental stage of the architect.

The profession of architecture is socially driven with its apprentice-style relationships and societal imperatives. As research, this study is required to select an appropriate theoretical framework that lends itself to the development of its arguments.

In the next section, this framework will be discussed and the relationship between it and the research topic will be shown similar in their societal connections.

Theoretical Framework

Using Vygotsky's (1986) sociocultural theory as my theoretical framework, I will investigate the impact that the SA experience may or may not have had on the ways that practicing architects perceive their current professional lives. Vygotsky (1978) argued that "all the higher [mental] functions originate as actual relations between human individuals" (p. 57) as they interact through the use of symbols. His "zone of proximal development" (ZPD), defined as the span between the individual's problem solving potential and the level that can be obtained with guidance from a teacher or "more capable peers" (p. 86), parallels the relationship found in the master-apprentice studio structure. This relationship between the master (mentor) and the apprentice (student) is where knowledge, concepts, and skills are relayed, internalized, and mastered. It is through practice led by a mentor that mastery occurs. As mastery is obtained, the student's inner voice replaces the voice of the master.

Scaffolding, as proposed by Vygotsky (1986) and coined by Wood, Bruner, and Ross (1976), is where the instructor provides "temporary support" while the student acquires responsibility for her/his own learning (Chen, 2012, pp. 219-220). Picture, if you will, the wooden scaffolding that supports the individual stones of an arch as it is constructed. As the stones are placed to carry their own weight or load, the scaffolding is removed. Thus, as mastery and self-regulation occur, the assistance of the instructor is removed. The interaction between both instructor and student promotes "the use of language... [and] is crucial to promote reflection and higher-order thinking" (Chen, 2012, pp. 219-220). As the instructor's control is replaced by the student's mastery (Diaz,

Neal, & Amaya-Williams, 1990, p. 127), the scaffolding effort allows the student to develop competence faster than would have happened unassisted (Wood, Bruner, & Gail, 1976, p. 90).

Vygotsky's (1986) research further showed that our social interactions and language develop our cultural identity and abilities. He argued that "to explain the higher forms of human behavior, we must uncover the means by which man learns to organize and direct his behavior" (p.102). This ability to direct one's behavior or to develop the motivation to do so was identified by Hedegaard (1990) while researching ZPD as the basis for instruction. He found that

the development of motivation has its parallel in the development of concepts, delineation of the problem, model formulation/model use, and evaluation. And both the structure in concept development and development of motivation can be seen as derived from the steps of instruction. (pp. 366-367)

Thus, the act of scaffolding by the instructor that enables students to increase cognitive development also promotes increased motivation. Hedegaard noted the dialectic relationship of motives and concepts where "the concepts are the content and specify the object of the motives at the same time that the motives create the images and the objectives of concept learning" (pp. 366-367).

Connecting his developmental theory (1986) and creativity (2004), Vygotsky expounded on cognitive development and motivation as they combine with content mastery and lived experiences (2004). With maturity, life experiences increase and contribute to the database of needed objects, materials, relationships, and feelings: the building blocks of creativity (p. 13). With these blocks, a human being can project beyond his known (p. 8) or vicariously obtained experiences (via having read or been

told) (p. 17), a future consequence or object to answer a need. Disassociating, as Vygotsky (2004) defined it, is “the foundation of abstract thinking, the basis of concept formation” (p. 26). By breaking down a memorable experience into building blocks, the creator can now “combine the old in new ways” (p. 12). Vygotsky (2004) further argued that this inner dialogue regulates and combines experience and imagination, “... precisely the impulse to create” (p. 42) with his belief that “no invention or scientific discovery can occur before the material and psychological conditions necessary for it to occur have appeared. Creation is a historical, cumulative process where every succeeding manifestation was determined by the preceding one” (p. 30). Thus the accumulation of maturity, experience, and skills, as well as, the exposure to architectural precedent and culture, enhances this creative ability that is intrinsic to the architectural profession for both professional practice and professional identity.

Also framing this study and inspired by Vygotsky’s (1978) sociocultural theory, situated learning (Lave & Wenger, 1991) emphasizes the educational impact of the social and environmental context on the individual through the “interconnected theories of perception, cognition, language, learning, agency, the social world, and their interrelations” (Lave, 1991, p. 66). The varying elements of culture, interaction, and personality are intertwined within the learning situation evolving further into the communities of practice (CoP) - defined as “a set of relations among person, activity, and world, over time and in relation with other tangential and overlapping communities of practice” (p. 98).

Operational Definitions

Architecture - “a physical representation of human thought and aspiration, a record of the beliefs and values of the culture that produces it” (Roth, 1993, p. 141).

Architectural Design – “mainly concerned with the creative manipulation of form, space, light, materials, and technologies with the aim to achieve an objective, which is aesthetic and functional” (Casakin, Davidovitch, & Milgram, 2010, p. 31).

Architectural Education - The acquisition of the knowledge, skills, and design ability from a degree seeking institution of higher education leading to professional licensure.

Building Information Modeling (BIM) - “A technology-enabled methodology used to manage the processes associated with the design, construction and operation of an asset. Implementing BIM successfully involves behavior, cultural and technological changes - transforming your organization, adopting new processes and implementing new standards” (Bentley, 2017, p. 2).

Career - A person's pursuit of a lifelong journey to practice in a certain profession.

Creativity – “A core aspect of human adaptability... defined as a capacity to develop novel and useful ideas, behaviors, or products, and tends to be seen as a complex capacity bearing on a mix of individual, situational, and cultural variables” (Martinson, 2011, p. 185). “Any human act that gives rise to something new is referred to as a creative act, regardless of whether what is created is a physical object or some mental or emotional construct that lives within the person who created it and is known only to him” (Vygotsky, 2004, p. 7).

A defining element in a designer’s professional identity (Wang & Ilhan, 2009) and professional practice (Casakin, Davidovitch, & Milgram, 2010, p. 31).

Culture – “The total of the inherited ideas, beliefs, values, and knowledge, which constitute the shared bases of social action” (Collins English Dictionary, 2012)

Design – “Design is emphasized as an art and as a craft. Facility with drawing and conceptual design are highly valued” (Cuff, 1991, p. 66).

Design Problem – Paradoxical situations presented for redefinition by the designer resulting in a design solution (Dorst, 2006, p. 14).

Design Solution – The individual’s synthesized answer to a design problem.

Design Studio - “The studio tradition of design education is consistent with an older and broader tradition of educational thought and practice, according to which the most important things – artistry, wisdom, virtue – can only be learned for oneself” (Schön, 1987, p. 84).

ERASMUS/SOCRATES – The European SA program that began in 1999 by the Bologna Declaration to create mobile student populations to enrich the higher education programs in Europe (Tiechler & Janson, 2007, p. 487).

Global Citizenship – Individual awareness and respect for other humans in the global environment.

Globalization - “The increasing flow across borders and boundaries – whether national, economic, cultural, technological, or institutional – of people, goods, services, ideas, information, images and values” (Hernes, 2001, p. 21).

Intercultural Proficiency – “The knowledge, skills, and attitudes/beliefs that enable people to work well with, respond effectively to, and be supportive of people in cross-cultural settings... [and has been] identified as a crucial business success factor” (Clarke, Flaherty, Wright, & McMillen, 2009, p. 174).

Internationalization – The process of integrating intercultural, global perspectives in all stake-holders in an organization (Coryell, Durodoye, Wright, Page, & Nguyen, 2010).

Practice - "An action or performance, but the term also implies a method of action, in the sense of habitual, customary, or routine. A professional practice, then, is the customary performance of professional activities" (Cuff, 1991, p. 4).

Profession: The characteristics include: "1. The work becomes a full-time activity; 2. University training schools are established; 3. Local and then national associations are formed; 4. The task is divided into preferred work and dirty work – the latter being delegated to others; 5. Those members who seek to upgrade the professions win power over the older members; 6. Neighboring occupations are brought under professional dominance; 7. Legal protection is sought through political influence; and 8. A code of ethics is generated" (Blakenship, 1977, pp. 14-15).

Professional Identity - "self-labeling as a professional, integration of skills and attitudes as a professional, and a perception of context in a professional community" (Gibson, 2010, p. 21).

Study Abroad Semester(s) – The time frame of a class that a student enrolls in that meets degree requirements.

II. LITERATURE REVIEW

This literature review will explore the research that has been completed on the development of professional architectural education, identity, and creativity as it builds towards the contributions that SA makes to each of these topics. The development of architectural education is broken down into exploring its early models, identifying professional education, describing when the architectural profession joined the university, taking an overall look at professional architectural education, and expanding on the general structure of architectural programs. This is followed by the development of the professional architectural practice and identity by examining the profession of architecture, the importance of reflective practice, internationalization in architectural practice, and conflicts in the profession. The development of professional creativity looks at the identifying attributes associated with creative people, the role of creativity in education and, specifically in architectural education, how it is maintained in the profession, the creative process, and research on creativity promoted by SA experiences. The final literature review topic is on SA and its types, how it impacts the individual, and its place in architectural education and professional practice.

Development of Architectural Education

When Vitruvius wrote his *Ten Books on Architecture* for Emperor Augustus Caesar, circa 1st century B.C., he described the education of architects as a study... so vast in extent, embellished and enriched as it is with many different kinds of learning, I think that men have no right to profess themselves architects hastily, without having climbed from boyhood the steps of these studies and thus, nursed by the knowledge of many arts and sciences, having reached the heights of the holy ground of architecture. (Vitruvius & Morgan, 2006, pp. 14-15)

This historical relationship between a practicing architect and his/her architectural ancestors is fostered in architectural education. “This sense of kinship with centuries of traditions, thoughts, and personalities is, in fact, the true tie that binds those who practice architecture with those who teach it and study it” (Boyer & Mitgang, 1996, p. 3). The renaissance nature of the profession of architecture requires a quest for creative opportunity (Casakin, Davidovitch, & Milgram, 2010, p. 31), knowledge of varied disciplines (Vitruvius & Morgan, 2006, pp. 14-15), an awareness of historical and cultural context (Kneller, 1965, p. 49), an intentional desire for life-long learning (Cuff, 1991, p. 259), and invigoration from ambiguity (Schön, 1987, p. 99). The following sections will explore the early models of architectural education as it evolved from its craftsman-based infancy to today’s institutionally driven form of professional preparedness.

Early models. The profession of architecture predates the current academic system of universities and colleges. Dating back to 2635 B.C., Imhotep, considered a god, is “the first recorded architect... active in Egypt (Roth, 1993, p. 105) and is credited with “introduc[ing] stone construction in Egypt, invent[ing] the pyramid” (p. 105) and laying the foundation for future architecture. This god status for architects changed in Greek times, however, where the architect was known as “arkhi, ‘chief’ ... tekton, ‘builder’ or ‘craftsman’” (p. 106). Plato (427-347) described architects in “*Politicus*... [as] not workmen but directors of workmen, and consequently they possessed theoretical knowledge, as well as, practical skills” (p. 106). This knowledge and skills was later listed by the Roman, Vitruvius (c. 90 - c. 20 B.C.), to Emperor Augustus Caesar as “literature and writing, draftsmanship, mathematics, history, philosophy, music, medicine, law, and astronomy” (p. 107). It was in the period of the Roman Empire that

architects rose in symbolic status and were classified by Cicero as an equal profession to the "physician and teacher" (p. 107). In Rome, building trades were organized and "subject to government control" (p. 108). Building projects had "collegium or trade organizations" (p. 108) that contained specialized fields of construction, e.g., brickmakers, carpenters, etc. Studios of these building trades were formed where the master builder/architect was in charge of designing, directing construction, and training apprentices (p. 109). Known as guilds in the Middle Ages, these were vital organizations enabling labor forces to migrate across Europe spreading design and techniques with guild notebooks. These notebooks were full of observations and drawings as is evidenced by the surviving sketchbooks of Villard de Honnecourt (1225 – 1250) (pp. 109-110). Sketchbooks documented the acquired knowledge of the architectural lineage of the guilds.

Status of architects and belief in the Middle Ages was that "scholars and teachers were considered to profess a learned discipline, whereas builders, painters and goldsmiths were viewed as merely practicing a craft" (Roth, 1993, p. 111). Understanding completely how the building was constructed, the "medieval architect-master mason" (p. 111) was involved with the building from design through construction. With the desire to increase their status in the fifteenth century, Renaissance architects, such as Leonardo da Vinci and Michelangelo, engaged in the "rise of Classical humanism and the study of ancient literature... [and as such were] trained as painters, sculptors, or goldsmiths" (p. 111). This freedom led to the ability to reexamine "Classical literature, art, and architecture" (p. 112) as architects like Brunelleschi were able to make the "pilgrimage to ancient Rome... to study and measure Roman ruins" (p. 112). Another such successful architect, "Leon Battista Alberti (1404-1472), a humanist scholar and theorist" (p. 111),

had his architectural portfolio become the standard for two centuries. He is attributed with removing himself from the work site by creating instructions/plans that were followed for construction of his buildings. Continuing today, this model removed the architect "from the constructive process... [and enabled him the freedom] to pursue intellectual exploration and creative artistry" (p. 111).

In 1671 France, the Royal Academy of Architecture was established as evidence arose of the poor training of architects and builders surfaced from their inability to produce "the kind of grand symbolic designs for the king and his ministers" (Roth, 1993, p. 115). This Royal Academy became

the Ecole des Beaux-Arts during the French Revolution [1787-1799], and provided architectural instruction for students around the world during the nineteenth and early twentieth centuries. In France this meant that the path to success in the profession required study at the Ecole, and, ideally, winning the culminating and coveted Grand Prix de Rome, which ensured the recipient thereafter of public building commissions and an appointment to teach students at the Ecole. (pp. 115 – 116)

Different from in France, England and the United States' architectural education in the eighteenth century consisted of "gentleman amateurs, widely traveled and read in Classical literature and architecture, or... professional architects trained in architects' offices but with little or no theoretical education" (Roth, 1993, p. 116). Combining these two educational paradigms of "practical experience and theoretical education... [resulted in the] emergence of the modern architect in England" (p. 117). Sir John Soane (1753-1837) is hailed as an example of this paradigm shift that made his work better and his ability to create unique solutions in "structural and lighting problems marked a new

direction in architecture" (p. 117). His office continued the tradition of training future architects (p. 117).

In 1797, the "first professional architect in the modern sense" (Roth, 1993, p. 118), Benjamin Henry Latrobe, arrived in the United States from England. Latrobe made a living solely by designing buildings for others to construct;... received practical and theoretical training (academically, in an office, and on the job site); ... supervise[d] construction to make certain it follows the plans agreed on; and... [was] paid a monetary fee based on the cost of the building being constructed (rather than being paid in goods or services). (p. 118)

Differing also in the structure of the profession, "national and municipal architectural agencies" (p. 118) were more common in Europe while private architecture firms of multiple partners surfaced in the United States, because of the need to cover the larger territory (p. 118).

The evolution of architectural education has taken centuries from its first Egyptian records to today's practicing professional. From being referred to as a God then chief craftsman, architectural education was historically obtained in practice by apprenticing. As societal demands required a more uniform expectation of the educational background of the architect, academic programs were formed and stressed the theoretical and practical applications of the profession while keeping the historical apprentice-style scaffolding structure. As a third of the CoP, being aware of the historical changes of architectural education helps us to hone in on the implications this academic structure has on professional identity.

Professions and professional education. Argyris and Schön (1974) presented the historical origins of professions as branching out from religion. Professing a faith in

the "values to be achieved through the activities of the profession... i.e. medicine professed health, law professed justice, education professed truth... faith [turned into] ideology [which is the] central component of what we call the paradigm of the profession" (p. 146). This paradigm includes other elements such as: ethics; skills sets; an organization of like-minded individuals "entitled to practice the special arts of the profession" (p. 146); and, a unique status among laymen that grants the professional "deference, authority and trust" (p. 146). Further, the public understands that there exists a structured environment where the professional works and the perspective that the practice and activities occurring in such environment will "lead to the better world envisioned in the ideology" (p. 147). Thus, a profession is a "community of practitioners who share, in John Dewey's terms, the traditions of a calling" (Schön, 1987, p. 32) using specialized language, procedures, and skills to operate in their particular environment (p. 32). Practice is a group of activities that can be sorted into types relevant to the knowledge needed to do the activity (p. 32).

Argyris and Schön (1974) break down the four stages of the development professions have made since the medieval times as: 1) "the priest... [represents] the prototypical professional" as he practices in the church institution with its' authority, belongs to the "sacred brotherhood [and represents the] functions of judge, healer, teacher, and minister" (p. 147); 2) "the professions secularized and differentiated" (p. 147) as they formed secular guilds, ethics, and institutions in law, medicine, teaching and religion. It was at this time, that "artisans and tradesmen (such as architects and engineers)... [attained] professional status" (p. 147); 3) the professions gathered their domain of knowledge, organized their pedagogy, and became a part of universities (p. 147). Ideology grew into the idea that the professional guarded the "values of society...

[and was accountable] to society at large rather than to the professional guild alone" (p. 147); 4) techniques and specialization increased as the professions developed (p. 147). This progression of mastering a technique has overshadowed the overreaching ideology of the profession as "the professional came to be seen, by himself and others, primarily as a technician who applied his professional knowledge, which was the basis of his authority" (p. 147).

Identifying the important contribution architecture makes to society, the United Nations Education Scientific and Cultural Organization (UNESCO) and the International Union of Architects (UIA) published in 2011 that

educators must prepare architects to formulate new solutions for the present and the future as the new era will bring with it grave and complex challenges with respect to social and functional degradation of many human settlements. These challenges may include global urbanisation and the consequent depletion of existing environments, a severe shortage of housing, urban services and social infrastructure, and the increasing exclusion of architects from built environment projects. (UNESCO/UIA, p. 1)

Accepting these challenges and priding itself on its multi-cultural students and faculty while stressing its cosmopolitan pedagogy, the Academy of Architecture in Mendrisio, Switzerland, notes architecture as an art that is situated in a place with its societal and cultural demands, but yet transcends to embody the contemporary world stressing that "education has to learn to traverse and filter the multicultural dimension of our society. To achieve this we need to educate the future architects in a true 'critical internationalism'" (Accademia, 2010, p. 11). In the multi-lingual and cultural interactions of the academy, the student is challenged to form and expand her/his own

cultural identity thus promoting a critique of a globalized standard of architecture, as well as, challenging regionalization (Accademia, 2014). Coryell, Spencer, and Sehin's (2013) research of cosmopolitan adult education and an itinerant architecture SA program found that "learners and instructors, alike, were subsequently able to identify aspects of their own global citizenship development as a result of their experiences in the program" (p. 153). The participants' interaction in challenging situations with diverse cultures and peoples developed their self-awareness, cultural sensitivity, and global identity (p. 147), both professionally and personally.

Contributing to the "crisis of the professions" (p. 149), Argyris and Schön (1974) identify the relationship that the "arts and skills that comprise professional practice" (p. 149) have to their dependence on the environment that they can operate (p. 149). These environments include the process of dialogue

among professionals and among professionals and clients; rules governing the procedures...[, roles, and expectations of all parties; a hierarchy of activities] that are standardized, uniform, and measurable; and the control of environment so that variables can be altered in limited and sequential ways. (Argyris & Schön, 1974, p. 151)

The environment is imperative to the practice, thus, professional educators must teach the skills, as well as, how to create the controllable environment where those skills will work (p. 149). The professional's awareness, license, ability to communicate, and negotiation skills make up his "technical expertise and authority in relation to laymen" (p. 150).

Argyris and Schön (1974) argued that these controlled spaces "interfere with the achievement of each profession's ideological goals" (p. 152), e.g., "the controlling environment of the law courts interferes with justice", etc. (p. 152).

Argyris and Schön (1974) further identified the "five main issues causing the crisis of the professions [as] who professionals serve, whether professional schools prepare competent practitioners, whether professionals benefit from cumulative learning, whether reform is possible, and whether self-actualization is possible in professional practice" (p. 156). Today's societal demands would add to these the need for a more globalized work force that has the required skills and cultural competence to confront the issues of globalization (Fujikane, 2003; Blum & Bourn, 2013). Blum and Bourn's (2013) research stressed the need for exploration on the impact of global issues on professional development, understanding the makeup of a discipline's knowledge, awareness of the curriculum's timetable for introducing global and developmental issues, the importance of identifying teaching and learning approaches (p. 45), and the challenges to the paradigm of emphasizing "scientific 'facts' above the development of 'soft' skills" (p. 51). These "soft skills" were identified as "the ability to recognise and value different perspectives, to work in a more flexible manner and with diverse groups of people, and to communicate effectively" (p. 49). Many professions require an amount of flexibility with real life problems that scientific training can downplay (p. 51). Referencing parallel fields of study to architecture such as engineering, "global and development issues have... [typically] been included either as part of optional or elective modules or as extracurricular activities" (p. 49). This reflects the secondary importance of how these skills are viewed (p. 52). However, Bourn and Neal (2008) reported that students that pursue global awareness obtain "better degrees and more high profile posts" (p. 9) compared to their peers that do not. Academia needs to identify the scope of abilities consisting of both hard and soft skills needed to produce programs promoting globalized citizens. With the evolution to meet professional demands, it is important to understand

the definition, formation, and the implications that these changes have had and will have on a profession's identity.

Architecture joins the university. The leading school of architectural education in the eighteenth century, the Ecole des Beaux-Arts in France, became very popular with American architects who, at "the turn of the century,... made up the largest single group of non-French students" (Roth, 1993, p. 118). In 1865, after centuries of apprenticeship as the only means of architectural education in the United States, Massachusetts Institute of Technology (MIT), followed by Cambridge and the University of Illinois, Champaign-Urbana, began the professional move to a structured architectural education that followed the Beaux-Arts' pedagogy. With the increase to quell societies' concerns of the quality and safety of an architect's work, "in 1897... the need for professionalization [made] Illinois become the first state to require a license to practice architecture" (Boyer & Mitgang, 1996, p. 14). This need to standardize professional expertise permeated educational programs. Being considered the "single greatest influence on how architecture education is conducted and thought about" (p. 15), the Ecole des Beaux-Arts' philosophy of education (p. 15) was imported via past Ecole faculty and adapted for American schools by "William Robert Ware, founder of both MIT's and Columbia University's architecture programs" (p. 15). The six Ecole des Beaux-Arts' principles are: 1) A formal education should be pursued before obtaining practical experience in architecture; 2) Students should be involved in research of construction and architectural history; 3) The studio experience should be based upon a competitive model with jury critiques; 4) Design should be stressed throughout studies that stimulate the imagination with inspiration acquired from the historical study of the masters; 5) Construction methods should be stressed; and 6) A broad cultural background should be included in

the curriculum (p. 15). The Beaux-Arts influence also led to the Eurocentric and classical style preference, master-student studio format, a design studio as the main pedagogical focus, outside evaluators as jurors, and the stressing of past architecture as the inspiration of current design (pp. 15-16).

Changes from the Beaux-Arts philosophy began to surface after World War I challenging its “calcifi[cation of architecture] into traditional forms... which were no longer relevant to the new age” (Peter, 1994, p. 13). The modernism movement stripped a building down to its exposed structure and standardized parts, lacked detailing, and celebrated the materials used. The result was a homogenized style absent of cultural personality that could be built anywhere (Erbay, 2013, p. 14). This movement inspired the organization of German artists, artisans, and architects to set up the Deutscher Werkbund in 1907; an association of craftsmen “attempt[ing] to install good design and craftsmanship for mass-produced goods and architecture” (Britannica, 2014). The Bauhaus school resulted from this movement and echoes the past master-builder concept where one person understood how to design and construct an item (Peter, 1994, p. 183). Walter Gropius, one of the Bauhaus founders, explained it as “much more than a school of art or architecture... We really had an approach to a new way of life” (p. 181). At the end of the WWI in Germany, there was the need to rebuild and find a new approach of reconnecting the people and their way of living with the art that promoted and combined individuality of design and the technology of the time (p. 183). When the Modern movement, enhanced by the Bauhaus philosophy, was imported to U.S. schools, there was “greater stress... on draftsmanship, structural logic, appreciation of the properties of materials, and an aesthetic that derived from the exploration of geometric forms” (Boyer & Mitgang, 1996, p. 17). The Beaux-Arts and Modernism philosophical approaches

spread across the U.S. as the move to professionalize architectural education promoted the creation of more and more architectural programs.

Professions looked to increase their prestige by creating schools in universities where research would promote professional knowledge and prepare students for actual practice (Schön, 1987, pp. 9-10). Questions arose, however, as to whether theory and research correlated to practice and how to teach for the unknowns and application of said practice (p. 12). Schön (1987) stressed the “flawed conception of professional competence and its relationship to scientific and scholarly research” (p. 12) where “‘professionalization’ meant the replacement of artistry by systematic, preferably scientific, knowledge” (p.14). Thus in the academic setting, the existence of a school of architecture is a challenge as it exists at the intersection of art and science. Schön (1987) argued that the ability of great practitioners reflects on how “adept [they are] at handling situations of uncertainty, uniqueness, and conflict” (p. 16) which indicates a level of knowing that goes beyond “applied science and technique” (p. 13) and curriculum often prevalent in more traditional academic disciplines. He contends that

architecture crystallized as a profession before the rise of technical rationality and carries the seeds of an earlier view of professional knowledge. Perhaps for this reason, it occupies a marginal place in the contemporary university...

[Architecture is both an] utilitarian profession concerned with the functional design and construction of settings for human activity [, as well as,] an art that uses the forms of buildings and the experience of passage through their spaces as media of esthetic expression... [This] bimodality and implicit reliance on another epistemology of practice make the university uneasy. (p. 43)

Being both artistic and supplemented by other disciplinary knowledge, the studio does not produce a “general usable science of design” (p. 43).

Typical of the assessment practices of academic programs, architectural education needs to measure the outcomes of its programs. Standards and regulations were created in the 1940s in the U.S. when organizations representing the academic and professional parts of the profession came together and created the National Architectural Accrediting Board (NAAB) (Boyer & Mitgang, 1996, p. 17) that also handles the accreditation of educational programs. With its valuable insights and lessons, Boyer and Mitgang (1996) considered architectural education as a model for other disciplines in higher education. They contend that “the study of architecture is among the most demanding and stressful on campus, but properly pursued it continues to offer unparalleled ways to combine creativity, practicality, and idealism” (p. 5). The move to professionalize architectural education in the university, however, has created a break between education and practice requiring extra effort on programs and students to assist the transition into the profession (p. 18). Self-reflection by the profession and academia has resulted in numerous investigations that are “powerful testimony to the depth and durability of the dilemmas that continue to confront architecture education and practice” (p. 19).

Currently, there exist multiple paths to obtain an architectural degree: five-year undergraduate degree, four plus two (four years in undergraduate courses and two years graduate courses), and, for late comers with other undergraduate degrees, three- or four-year graduate programs (NCARB, 2013). Once the student obtains a professional degree from an accredited program in the United States, he/she enters the internship program to work for a registered architect while obtaining credits in the 2016 Architectural Experience Program (AXP), formally the Internship Development Program (IDP), as laid

out by the state where the student lives. “The [AXP/]IDP is a bridge between academic preparation and practice, but it is also the first step into a professional’s life-long learning experience... [that] refresh[es] their knowledge and skills... [and keeps them] abreast of new developments” (Cuff, 1991, p. 259). The student may sit for the Architectural Registration Exam (ARE) before completing the AXP/IDP requirements, but must have the requirements completed to receive the license from the state. Licensing fees and continuing education requirements must be met to continue license and the ability to practice (NCARB, 2017).

Marketable skills of global experience benefit companies and individuals alike (Anderson, Lawton, Rexeisen, & Hubbard, 2005; Chirkov, Vansteenkiste, Tao, & Lynch, 2006; Clarke, Flaherty, Wright, & McMillen, 2009; di Pietro, 2008; Teichler & Janson, 2007). SA literature expounds on the student’s increased global awareness, self-confidence, and “encounters with new intellectual and cultural frameworks [that] challenge traditional planning and architectural design criteria” (Virginia Tech, 2013). It is thus imperative that architectural higher education promote SA programs that offer the students the greatest opportunity to expand their academic, career, creative, cultural, and personal goals (Brux & Fry, 2009; Clarke, Flaherty, Wright, & McMillen, 2009; Maddux, Adam, & Galinsky, 2010).

Architecture’s status in the academic setting has been complicated by the theoretical framework of different time periods and challenged by the dichotomous demands of practice vs academic settings in opposition to the CoP as designed. The existence of multiple paths towards a professional degree, as well as, internship and licensure requirements has complicated the academic pursuit further. However, with the

implementation of SA programs, architectural education draws on its profession's history of promoting global awareness both professional and personally.

Professional architectural education. Professional architectural education consists of, as generalized by Schön (1987), a "reflective practicum" (p. 18) called studio or atelier "centered on the art of designing" (p. 18) where there is a safe environment to learn the skills necessary from instructors/coaches that introduce the culture and language so that students learn "to see on their own behalf and in their own way what they need most to see" (p. 17). Operating at the fringes of applied science and scholarship curriculum, "education of the fine arts... [requires students to] design, perform, and produce... everything is practicum" (p. 16). To learn to design, the student must design *before* knowing how to design. This paradox requires a dialogue and scaffolding with the instructor that enables the communication and absorption of design knowledge be transferred as the student builds his/her own design voice and convictions (p. 99).

Studios are supported with multi-disciplinary courses to supplement studio design projects. Valued among most schools of architecture, the multi-disciplinary approach immerses the architect in the domain-specific knowledge of each discipline and emphasizes the societal responsibility that the professionalization of architecture requires. It is imperative that architectural students understand the importance of designing with the context, history, personality, and aspirations of a society in mind (Jarzombek & Hwangbo, 2011). Identifying the role of an architectural program in a university with its balance of artistry, humanism, and science components requires a strong statement of purpose and identity.

Inspired by the UNESCO/UIA recommendations, Boyer and Mitgang (1996) established seven essential goals for architectural education programs to address: 1) "an

enriched mission" (p. 1) to promote better communities; 2) an appreciation of diverse programs and faculty; 3) a "coherent set of expectations" of diverse programs; 4) an inter-related curriculum that promotes the necessary skills for practice and communication, as well as, the ethical considerations required for professionalization in an increasingly globalized world; 5) a self-reflection of the program and its students' needs; 6) an increased dialogue within the community of practice that encourages lifelong learning; and 7) the civic responsibility of a practicing architect to contribute and improve the society of which he works in the present and for future generations (pp. 31-129). Boyer and Mitgang contend that these goals will "not only... prepare the young for productive careers, but to enable them to live lives of dignity and purpose; not only to generate new knowledge, but to channel that knowledge to humane ends" (p. 141). The implementation of these recommendations into architectural programs further enriches the dialogue between the CoP, promotes the identity of the profession, and enriches the aptitude of its production of students prepared for professional practice. To better understand how these things can be achieved, we will take a look at the individual components and how they are intertwined.

General structure of architectural programs. The studio is the "heart of architectural education" (Cuff, 1991, p. 63) and the place where students are immersed in the architectural community of practice (CoP) (Lave & Wenger, 1991) where they can socialize within the language of the profession (Morton, 2012, p. 101). With instructors that are typically experienced architects rather than academics, the CoP dialogue is strengthened (Morton, 2012, p. 102) and continues the tradition of the apprenticeship style of learning which dates back centuries with nuanced changes from such movements as the "Ecole des Beaux Arts and the Bauhaus" (Cuff, 1991, p. 63). The foundational

objectives remain that students receive: "an understanding of professional roles and responsibilities', 'the ability to communicate a design in a clear and professional manner', and 'the development of skills commensurate with those required by the architecture profession'" (Morton, 2012, p. 102). Studios vary by instructor, school, topic, location of project, and level of student, but the method of studio remains similar: a problem is presented by the instructor that coaches the student in preparing a design solution (Cuff, 1991, p. 63). Prior architectural experience and international exposure and citizenship also vary by student and adds depth to the studio community by contributing different skill sets, cultural variety, and diverse perspectives. The first studio's mystery of how to design evolves as the student gains skill and understanding while passing through the scaffolding of future studios (Schön, 1987, p. 20). Studio, thus, "help students in their transition to the... profession" (Morton, 2012, p. 102). With studio being the crux of the architect's education, a closer look at its environment and activities that happen there will be taken to relay the environment to those that have not experienced it.

Studio environment. Due to the close interaction between instructor and student, enrollment is typically kept at a minimum. Cuff's (1991) research notes that studio is similar to "a series of design 'seminars' meeting from sixteen and twenty hours a week with one faculty member servicing twelve to fourteen students" (p. 65). This, of course, depends upon the instructor - student ratio with assistants often assigned to be able to increase student enrollment. "Architectural knowledge is transmitted most effectively on a one-to-one basis [with] the teacher sitting with a single student for fifteen minutes to one hour engaged in an often silent dialogue of pencil lines and fragmentary sketches" (p. 65). This parallels Vygotsky's (1978) zone of proximal development (ZPD) of the master meeting the student at his/her level and assisting him/her to increase their level of

mastery by witnessing the instructor work through the design problem (p. 86). Wood, Bruner, and Ross' (1976) term for "scaffolding" describes "the nature of the ZPD interactions... address[ing] both instrumental support and the formation of the learner's sense of self-control and self-efficacy" (Sternberg & Williams, 1998, p. 214).

The studio's physical environment can vary from individual desks for each student with shared tables for group discussion/presentations to "personalised working space on large communal tables" (Morton, 2012, p. 105) that adjust to the number of students present. Once inhabited, this community becomes "home and workplace" (Polshek, 1981, p. 2) where long hours, personal creations, and struggles with design problems are shared and discussed among all community members with the instructor leading, provoking, and challenging the students. This intense environment promotes the "clannishness... [that is] the more obvious hallmarks of the 'culture of architecture'" (Cuff, 1991, p. 65) where students spend many waking hours working and conversing, "but mostly engaged in private, parallel pursuit of the common design task" (Schön, 1987, p. 44).

Within the typical semester, the meeting times of studio varies greatly based upon the instructor and project requirements. Morton's (2012) study presented a studio group that met "weekly - for up to six hours" (p. 103). After working in teams to identify the design issues, students began working individually to find a design solution that would be shared periodically with the instructor and peers for feedback and redesign. Design artifacts such as sketching, hand drawings, models, and computer generated drawings are prepared for these reviews known as 'crits' which is short for critiques (p. 103) (see next heading). As students prepare for professional practice, studio is the safe place where they learn the crucial art of

work[ing] collaboratively on identifying and resolving design problems... [while gaining verbal and graphic abilities to express design intent,] defend one's ideas in the face of critique, and to reflect upon and critique one's own and others' design ideas and decisions. (Morton, 2012, p. 103)

Cuff (1991) described typical architecture students as those that "stay up late, are never home, spend all their time in studio, and belong to a clique of other architecture students" (p. 118). The "charrette" (p. 128), defined as the "final intensive effort to finish a project... before a deadline" (Dictionary.com, 2014), is reflected by intense stress, competitiveness, and sleep deprivation. Experiencing a "charrette" in preparation for a "crit" represents further bonding characteristics or the ethos of the studio environment as does surviving the "crit" with the ability to be coherent, understand the comments made during the presentation, and endure the comments of the jurors.

With problems similar to those found in practice, so too the "approaches to academic problems help to shape those in practice. The emphasis on the individual designer, the downplaying of budget considerations, the charrette ethos – all are internalized by the student and carried into professional life" (Cuff, 1991, pp. 107-108). However, even though each student experienced the community of the studio with its shared experiences of stressful "charrettes" and "crits", "the core belief... [of] individualism over collaboration is bred in the studio... Collective aspects of designing receive virtually no pedagogic attention and generate little reflection, nor does the importance of architecture's social context" (p. 251). Breaking down the complex environment where students are enculturated into the profession helps to unravel the mysteries associated with studio and possibly expose issues that can be associated with professional identity.

Critiques. The studio practice of critiques (crits), both desk or pin up, individual or public, identify a practice of verbal and graphic feedback pertaining to the drawings and models created by the student by the instructor, peers, or invited reviewers. The location of the "crit" depends on the level of review and number of participants. "Desk crits" are so named because the student's desk is the location which lends itself to a more informal one-on-one crit (Morton, 2012, p. 104). "Pin ups" are where the students take turns pinning up their work on walls for review and critique. "Crits" and "pin ups" can take place in other locations than studio such as the sponsoring organizations offices. Morton describes one as a large, "rather cold and anonymous room [with only large tables and] pin-up boards placed around the perimeter of the room" (p. 104). The order to presenting can be instructor requested or volunteered (p. 104). As the student presents, drawings and other artifacts are produced. Typically, the instructor will have "access to the artifacts; to scrutinize them, to physically manipulate them, and to modify them" (p. 105). This exchange also represents the student's "symbolically relinquishing control over them for the duration of the crit" (p. 105). Different approaches happen next: the student explains their design approach to the design problem or keeps quiet with "the instructor talking aloud his interpretation of the artifacts" (p. 105). As the latter is valuable for the student to hear someone else's thoughts, it can limit "their opportunity to display expertise on their own designs" (p. 105). The instructor's verbalizing his thoughts as he reviews the artifacts allows students an example of how to review someone else's work and helps all parties to understand the instructor's interpretation of the design solution (p. 105). Another method is to alter or move components of the artifact to explore. "Resolving design problems through visual thinking and experimentation is fundamental to the process of design, and aids the development of visual thinking" (p.

106). The manipulation of the artifact also stresses the instructor as "expert" (p. 107). The dialogue may be between instructor and student only or the instructor may invite comments from peers or invited reviewers that the instructor may further comment on or explain the received critique further stressing the expert role he plays (p. 108). The final "crit" is a verbal and visual presentation by the student that culminates the semester's work and is reviewed by the instructor and typically outside reviewers, i.e., other instructors or professionals. Designed to critique student work and promote understanding of the design process for future projects, "the students' perspective is the crit is probably the most grueling and potentially humiliating experience of their education, akin to hazing" (Cuff, 1991, p. 126). The "crit" relays the professional expectation that "work should be able to stand the test of harsh professional criticism, doled out by those with greater experience" (p. 126) and affirms the intra-disciplinary pecking order (p. 126) while training the student to separate himself personally from his work and to communicate on a professional level. Completion of the studio experience promotes development of the required professional and presentation skills while it fosters the professional architectural identity (p. 126) and indoctrinates the "charrette ethos" that carries into professional life. As a major vehicle of creative critique and acquisition of professional presentation skills, crits are a formidable exercise that more closely binds the community together.

Studio pedagogy. Studios are sequentially arranged to expose students to increasing levels of complexity in design, skills, and communication (Cuff, 1991, p. 252). With "almost seventy percent of... architectural curriculum" (p. 65) happening in studio, the importance of learning to design, "the most mysterious of the architect's knowledge... takes place in a somewhat protective setting. The academy serves the

intended purpose of providing safe turf for error and innovation” (p. 66). Similar to actual practice, but "without definitive context" (p. 65), architectural design problems vary with the level of studio as they offer the student time to obtain and practice skills to identify and solve problems (p. 63).

Cuff (1991) identified "six principal characteristics of design problems" (p. 62) as: 1) "design in the balance" where the problem uses contradictory concepts to be resolved by the design; 2) "countless voices" where problems have many participants that have needs or viewpoints that need to be expressed in the design solution; 3) "professional uncertainty" stresses the dynamic that "responsibilities, procedures, authority, allegiances, and expertise in a project are ambiguous" (p. 62); 4) "perpetual discovery" of each problem being continually rediscovered and redefined; 5) "surprise endings" constitutes the result of many proposed solutions for a given problem; and 6) "a matter of consequence" promoting increased motivation by designers (p. 62). Students are assigned one large design problem or multiple smaller problems during the semester.

As the design problem is assigned to all students in the studio, each student studies it and individually reframes the problem as they are encouraged to research similar projects and sketch preliminary thoughts. This reflective practice continues as the student researches multi-disciplinary topics related to the problem, cultural ramifications, materiality, context of location, etc. that impact the problem. Dialogue with the instructor via desk-critiques (shortened to desk-crits) and pin ups allow the instructor to monitor the students' progress.

When coach and student coordinate demonstrating and imitating, telling and listening, each component process fills gaps of meaning inherent in the other.

The coach's demonstrations and self-descriptions, the student's efforts at

performance and self-descriptions, the comparisons of process and product, provide material for reciprocal reflection-in-action. (Schön, 1987, p. 118)

As the students' confidence grows, the ability to reflect will increase as the student begins to project implications and changes direction by instinct (Schön, 1987, p. 63).

Intrinsic in the design studio are the two paradoxes of the student designing by doing before knowing how to design and the instructor unable to explain how for lack of being understood (Schön, 1987, p. 83). It is through the action, struggle to comprehend, and the "temporary relationship of trust and dependence" (p. 95) on the instructor that the student acquires the knowledge and confidence.

Students practice the amorphous act of design before they understand the process. This requires a relationship based upon trust with the instructor that the studio will be a safe place to make mistakes. The intensity of the projects assigned over semesters and the gradual intensity of expectations during a semester culminate in the final crit where the student presents his/her design, as well as, graphic and communication skills. The pedagogical outline of each architectural program prepares the students for their professional transition.

Transitioning from a student to a professional. As students graduate and enter the professional world of architecture, the culture they have been immersed in has provided them the skills, language, knowledge, and historical perspective to contribute to the next phase of the architecture CoP: professional practice. "The significant task of architectural schools... [is to] initiat[e] the formal development of future architects... [as students gain] the enormity of the knowledge [and skills] an architect needs" (Cuff, 1991, p. 129). The student goes from his studio environment with the "master/student" relationship to the office and architect-employer/intern-apprenticeship relationship (p.

129). In the office, the "entry-level architect... [will be] caught in a schism between ideals and contemporary architectural practice, expecting to become an architect-designer yet humbled by his or her status as a laborer who has yet to learn the trade" (p. 135). This humility does not stop with the tedious work assigned or from working under many "masters", but also from the realization that "authorship" that they had in school is assumed to contribute to the office's success (p. 135). Students are informed that fame or fortune is rare in the architectural profession and that the workload is intense, i.e., the ethos learned in school, but, still, the motivation of students prevail by their creative drive and the opportunity "to improve the quality of life in communities or improve the built environment as a whole" (Boyer & Mitgang, 1996, p. 7).

The time and studio experience spent during the academic years helps to prepare the student for the transition to professional world, but the world of practice presents a different perspective on architecture than what the student had been immersed in. Now the student becomes a part of the office team with a different 'master' where the unrealistic work ethos of design school continues with little or no reward for enduring it. This 'internship' places the student in new territory with different deadlines and restrictions, other professionals, and communication requirements.

Development of Professional Architectural Identity and Practice

Reflecting back on Argyris and Schön's (1974) concept of the development of professions discussed earlier, they identify a profession as having a "structured environment" that enables the practitioner a reliable space for common language, understood procedure, and practice as it contributes to "his technical expertise..., authority in relation to laymen" (p. 150), and professional identity. As defined by Gibson, Dollarhide, and Moss (2010), the development of professional identity is the

“successful integration of personal attributes and professional training in the context of a professional community” (pp. 23-24). In the profession of architecture and its' CoP, the "structured environment" is now the studio/office. Where the academic studio provided the safe environment for students to create, hone their skills and critical thinking, acquire the knowledge, and practice the language of the profession, the workplace will bring new "master/s" who will introduce concepts of business, creativity, ethics, professionalism, and external evaluation (p. 22) into the practice of architecture. Internalizing these concepts and feedback, “the new professional is able to self-evaluate, integrating experience with theory to merge personal and professional identities” (p. 22). This section will discuss the profession of architecture, what it is to be a reflective practitioner, the internationalization of architectural practice, and the conflicts in the profession.

The profession of architecture. Cuff (1991) identified a profession as a "collection of practitioners... [in] a dynamic, continuously reconstituted organization of colleagues. It is by nature a social entity" (p. 22). The architectural profession, in Schön's (1987) opinion, is "bimodale" which represents its "utilitarian...[nature with its focus on] functional design and construction of settings for human activity...[and] an art that uses the forms of buildings and the experience of passage through their spaces as media of esthetic expression" (p. 43). The result is an object exposing the architect's "reflective conversation with his materials" (p. 43) that can be analyzed for its "functional and esthetic values" (p. 43).

With the acknowledgement of its Egyptian ancestry, the existing character of the profession of architecture in the United States can be dated back to 1865 when MIT instituted the first structured architectural academic program. Boyer and Mitgang (1996) contend that “the nobility of architecture has always rested on the idea that it is a social

art - whose purposes include, yet transcend, the building of buildings" (p. 3). This concept of a social art presents questions as to whether the architect should "attempt to reform society,... [and] shape environments according to how [he thinks] life *ought* to be lived...; or should the architect reflect prevailing social values and shape environments according to how life actually *is* lived" (Roth, 1993, p. 118). The environment is impacted by the architect's intentional act upon it, because the urban planning or building will become a part of the social fabric.

Alone among the professionals, architects have the potential to effectively address the insidious destruction of our communities, through mindless unplanned growth... The principal task facing architects in the coming years will be finding ways and means to reestablish livable cities and towns, and to re-create the sense of community, to which we all instinctively aspire. (Glasser, 2000, p. 252)

Identifying a society's needs and how the profession of architecture nurtures and promotes those needs is a component of the community of practice that plants this seed in the fertile minds of students so that it enriches the practicing profession. An example of the impact that this social art has on a society is the international style that Mies van der Rohe and many others in the modern movement promoted. This style was represented by a simple structural language that could be used as the basic style for all buildings worldwide. The style ignored cultural differences with only slight modifications for climate and, thus, could be built anywhere (Peter, 1994, p. 161). This dehumanization of architecture, however, played out some 20 to 30 years later by the erosion of these modern facilities and the impact the buildings had on the people inhabiting them (Mayekawa, 1994, p. 279). One such example is the "Pruitt-Igoe housing complex in Saint Louis, Missouri, built in 1952-55" (Roth, 1993, p. 118) that was partially

demolished in 1972 as it became too dangerous to live due to the residents' inability to acquire a "sense of identity" (p. 118) or to feel safe. The social impact of architecture thus is a strong statement of the importance of professional responsibility. In the architect's desire to find absolute solutions to real problems and "to invent a universal and pure architecture... [as part of] our idealistic legacy from the Renaissance..., [the challenge in doing so is to design in] dialogue with the past, as well as, a legacy for the future" (p. 118). Connolly (2013) noted the underlying drive to reconnect people and places by stressing the fact that buildings impact a society's personal and professional space. He contends that it is the relationship between a society's behavior and design space that should be researched to enrich future projects (p. 1). Glasser (2000) concurs this importance that unless architects rethink the community and the profession's responsibility to it that the trend of self-absorbed design will continue (p. 252).

The "business" of architecture and its success has been a continuing contradiction since the days of Vitruvius. "But for my part, Caesar, I have never been eager to make money by my art, but have gone on the principle that slender means and a good reputation are preferable to wealth and disrepute" (Vitruvius & Morgan, 2006, p. 92). Where good design is still the goal, it is undermined by the need for "good business practices" (Cuff, 1991, p. 69). Studio stresses the importance and demands sacrifices via the "charrette" ethos to be a good designer. It is the ethos implanted in academic studios that continues and grows in a practice. Accepted is the expectation of long hours possibly beyond the fee that attribute feelings of "ownership" and protection for the project design with the understanding "that good architecture is rarely possible within the fee" (pp. 70-71). Design time and freedom are constantly challenged, first by client demands of being economical and functional to the second of architecture being a

business (p. 69). Time management becomes critical in the "business" of architecture with its needs to meet payroll and overhead. Further exploration of design alternatives or changes to a design are met with the "paradox...: an office without good business practices will not survive, but many of those same business practices can discourage good design" (p. 69). Good design reflects the architect's ability to comprehend the anthropological nuances of the culture associated with the project (Argyris & Schön, 1974, pp. 158-159). "Architect are trained to assume responsibility for design; their professional identity depends on it" (Cuff, 1991, p. 21). Even though the client is paying the bills and has desires for the project, the architect is professionally, by law via building codes, required to consider the community where the project will be located. The ramifications of a successful practice requires satisfied clients, workable relationships with consultants and contractors, as well as, satisfying community regulations.

As a licensed professional, an architect has societal responsibilities to meet, as well as, clients, consultants, contractors, and local and national governmental codes to satisfy. While meeting these professional requirements, the architect struggles to meet his own creative desires and work ethos while balancing the need for successful business practices. Continuing the studio practice of reflective feedback and crits, the architect further strives to compete in an ever changing global and technological work environment.

The design and construction world has adopted the methodology of Building Information Modeling (BIM) which has become a great challenge to architectural identity. Described by Bentley (2017), BIM "is a technology enabled methodology used to manage the processes associated with the design, construction and operation of an asset. Implementing BIM successfully involves behavior, cultural and technological

changes-transforming your organization, adopting new processes and implementing new standards” (p. 2). Per their research, 72% of the construction models have been created the general contractors, with 4% done by the design team, 5% by consultants, and 19% by specialty trades such as mechanical.

Many of the conflicts that the architect faces have been identified with the intention to consider their impact on professional identity (p. 14).

Reflective practitioner. The architectural studio replaces the master-apprentice style of education used for centuries and is presented by Schön (1987) as "at once a living and a traditional example of a reflective practicum" (p. 43) for other disciplines to mirror. In studio, there is openness to explore with the guidance of coaches that instills the culture of architecture while challenging the students to arrive at their own interpretation (p. 17). To be able to resolve the variety of projects that are not specifically addressed by the learned theories and experience, the architect “must do so by a kind of improvisation, inventing and testing in the situation strategies of her own devising” (p. 5). This improvisation requires an acquired comfortableness with ambiguity, reflective ability and the faith in the foundations of knowledge gathered from studies and experience. “In the constructionist view, our perceptions, appreciations, and beliefs are rooted in worlds of our own making that we come to *accept* as reality” (Schön, 1987, p. 36). The designer brings this "reality" to design process, "an extraordinarily complex activity that creatively combines reasoning and intuition" (Yanik & Hewett, 2000, p. 62). Designers throw their version of reality into the mix of project variables as they sort through differing values while negotiating the maze of constraints where "there are no unique right answers" (Schön, 1987, p. 42). The act of combining all of these elements into the design solution, e.g., building, urban plan, etc. is referred to as the "design process" or "synthesis

of design". Schön (1987) referred to the "design process as reflection-in-action" (p. 44) as it requires the ability to "reflect" upon this process in a continuing dialogue both internally and externally. The studio environment that exists in practice parallels the academic studio as it continues the reflective nature, work ethos, and safe space for the design process to occur.

Internationalization in architectural practice. Architecture is an organized profession that defends its market niche, educates the public about its societal role, has global organizations as clients, members with international reputations, and transcends national borders by the commonality of the professional language obtained in its studies (Le Bianic & Svensson, 2008, p. 568). Research on the European mobility of the architectural profession enables a perspective to glean valuable lessons for implementation elsewhere. "The Treaty of Rome in 1957... promote[d] the freedom of movement and settlement of professionals within Europe... provided for automatic recognition of professional qualifications and introduced a minimal harmonization of curricula across Europe" (pp. 573-574). However, barriers to architectural international mobility do exist in crossing national markets (p. 572). These include licensing regulations and "national differences in administrative procedures for architecture (access to public projects for example) as well as aesthetic standards" (p. 568). An architect in Europe cannot practice in the United States without completing the Architectural Registration Exam that contains educational and internship prerequisites. Even in the U.S., reciprocity to practice in different states requires meeting individual state's criteria. In the effort to unite architects globally, the International Union of Architects (UIA), established in 1948, represents professionals in over 100 countries and has as its mission to develop international standards of practice that in 1999 were approved, implemented,

and named the UIA accord. This accord lists the standards, but, because of different licensing requirements and lack of free trade agreements, professional architects are not yet able to practice globally (UIA, 2014). The dialogue is underway to remove these restrictions. The architectural profession recognizes the exposure that SA programs have provided for marketable global awareness of its professionals and is working to remove international work restrictions, but the complexity of licensing internationally makes this difficult.

Conflicts in the profession of architecture. In 1988, Robert Gutman published *Architectural Practice: A Critical View* which included the following critical points for the profession: aligning the supply and demand for architects and services; adopting a wide vision of practice and its role in construction industry; strategies to secure the work done by architects from competitors in other disciplines; maintaining economic success in the face of increasing costs and competition; and balancing employee professional growth with improved management and teamwork (p. 97). In another area, Argyris and Schön (1974) identified the controlled environment where practice occurs as another critical component that the profession needs to identify and adjust to meet the demands of new techniques (p. 151) such as technology. Another conflicting component is the architecturally accepted "charrette" ethos of an intense workload to fulfill the creative drive with little compensation (Cuff, 1991, pp. 107-108).

The profession suffers the consequences of its own ideals: downplaying the importance of profit creates minimum-wage workers; professional autonomy is reflected in public disinterest; emphasis on design allows other necessary skills to fall to other specialists promoting the emergence of new professions... [such as]

civil engineering, structural engineering, interior design, site planning, and urban design. (pp. 35-39)

Cuff (1991) lists other dualities in conflict as: 1) "the individual with the collective...; [2)] design against business...; [3)] design as decision making versus design as making sense of a situation... [4)] whether architecture is best created by a mosaic of specialists or is inherently the comprehensive task of qualified generalists" (p. 11), as well as, the ability of others to produce functional, perhaps less aesthetically pleasing, versions of buildings notwithstanding the professional liability to protect society and restrictive design fees incurred by the architect (pp. 31-32). It is the interconnections between the community of practice, i.e., "education, expertise, and the market [that] sets a model for the profession, which persists even as social and economic conditions change" (Cuff, 1991, p. 24). This model shifts to the professional ideology, but in reality is represented by the paradox of "espousing the glories of architecture as an artistic endeavor" (p. 24) while actually being mundane, repetitious activities (p. 24). Further, Cuff (1991) identifies the areas considered for growth to be "the studio, professional practice courses, the internship years, continuing education, professional recognition, the body of knowledge, and societal trust" (p. 262). This unexhausted list of conflicts inherent in the architectural practice are a starting place to investigate the dilemma of professional identity that the profession is facing today.

Conclusions being drawn between professional education and practice. In his research, Thakur (2009) interviewed fourth year architectural students about their feelings of preparedness to enter the profession and the five concerns that surfaced were: monetary concerns, acculturation into a firm, communications with other professionals, technical and legal issues, and lack of personal historical precedent (p. 2). One student

shared the experience of the first day of internship where the "boss walked me to my station saying, 'Forget everything they taught you in school. Let's start over'" (p. 2).

Practicing professionals are aware of the creative focus that schools instill without real-life experiences of budgets and construction management among many other practical components of practice. It has long been understood that the "practice" of architecture is absorbed through the office environment with its unique standards and processes while academia instills creativity, architectural language, critical thinking skills, knowledge of historical precedent, and the ambiguous design process.

The community of practice of architecture is in dialogue to strengthen and bring current factors that would contribute to a more globalized profession. Some of these areas include the academic hard and soft skills, global perspective of practice, cultural competence, stressing reflective practice, societal advocacy, and technological advancements. With the existing curriculum burdened with the multi-disciplinary topics and studio approach, the ability to include more exposure to global perspectives is a challenge to academia and, thus, the profession. Fortunately, SA programs already promoted in architectural education programs can meet this challenge while also promoting increased creativity.

Development of Professional Creativity

Known by different names, e.g., innovation in education, entrepreneurship in business, problem solving in math, composition and performance in music, and design in architecture, creativity crosses all disciplines and is imperative to discover problem solving strategies across all areas of human existence (Kowaltowski, Bianchi, & de Paiva, 2010, pp. 456-457). Vygotsky (2004) views imagination as not a waste of time or relevancy, "but rather a function essential to life" (p. 13); an important component in our

cultural existence that impacts the “artistic, scientific, and technical” aspects of our society and creates new realities grounded in our history (p. 9). He stresses that “creation is a historical, cumulative process where every succeeding manifestation was determined by the preceding one” (p. 30). He further posits that human development is not complacent in the past, but “oriented toward the future, creating the future and thus altering... [the] present” (pp. 8-9). The poet, T. S. Eliot (1921), expands further this element of creativity transcending time as he explains the paradoxical nature of the poet being aware that “the past... [is] altered by the present as much as the present is directed by the past” (p. 1). The poet aware of this can identify his/her responsibility to the discipline’s past, present, and future, as well as, place himself/herself in the cultural and time continuum while continuing his acquisition of the “consciousness of the past” (pp. 1-2).

As with art, so with other cultural artifacts. The necessity of imagination in human beings is not only a necessity to think and act socially; it is a requirement to develop, expand, and order one’s life within a set of cultural meanings and social relations with others. The mind draws the individual into the social world by image making. (Pelaprat, 2011, p. 416)

Creating new things for the future is the designer’s task that is amplified by previous experiences, empathy, and emotions that crystalize in the gestation period into a new form (Vygotsky, 2004, pp. 17-25). It is these creative acts that identify the professional identity of design professions (Wang & Ilhan, 2009).

The experience a designer obtains correlates to being a “more finely perfected medium in which special, or very varied, feelings are at liberty to enter into new combinations” (Eliot, 1921, p. 2). For a poet, that is to take ordinary emotions and

combine them into expressions of new feelings (p. 3). In architecture, this same concept is captured by architect Mies van der Rohe (1994) as he explains that he is

working on architecture as a language, and I think you have to have a grammar in order to have a language... And then you use it, you know, for normal purposes and you speak in prose. And if you are good at that, you speak a wonderful prose, and if you are really good, you can be a poet. But it is the same language, that is the characteristic... I think that is the same in architecture.... If you have to construct something you can make a garage out of it or you can make a cathedral out of it. The same means, the same structural methods we use for all these things. (p. 160)

The act of designing is a continual evolution of skills, experiences, and readiness to be the vessel of creation. Vygotsky (2004) contends that the creative act is when a human produces something new either as a “mental or emotional construct” (p. 7). Taught in higher education under different titles relative to the discipline, the level of creativity under scrutiny here is at the adult/professional or “mature” level. This level requires inferences, induction, and research into topics that impact the item to be created and experiences to allow reflection and synthesis of the most appropriate skills and actions to make it happen. T. S. Eliot (1921) captures this synergistic act by defining

The poet's mind... [, the catalyst, as] in fact a receptacle for seizing and storing up numberless feelings, phrases, images, which remain there until all the particles which can unite to form a new compound are present together... it is not the 'greatness,' the intensity of the emotions, the components, but the intensity of the artistic process, the pressure, so to speak, under which the fusion takes place, that counts. (pp. 2-3)

He further stresses that the answers to the problem being considered can actually override the artist's desires, because "the emotion of art... [is] impersonal" (p. 3). The artist completely removes his own feelings about the outcome from the creative act. His act is of a medium channeling the problem through the filters of the past, present, and future. Mies van der Rohe (1994) shared a similar viewpoint in his approach to architecture. He described how his personal thoughts were impacted by the creative process. "I throw often things out that I like very much. They are dear to my heart, but when I have a better conviction, a better idea, a clearer idea, then I follow the clearer idea" (p. 160). This removal of personal preference by the artist creates works of art that can obtain a timeless aura. "Architecture belongs to the epoch and not even to the time, to a real epoch" (p. 159). They speak to the temporal component of creation and not to the personality of the artist.

The ability to imagine something, assign it a word, is a human trait that produced the world of culture "in which thought can circulate and organize our lives" (Pelaprat, 2011, p. 414). As the imagination is able to create the item, Vygotsky (2004) contends that "everything around us that was created by the hand of man, the entire world of human culture, as distance from the world of nature, all this is the product of human imagination and of creation based on this imagination" (pp. 9-10). Ribot (2008) argues that "creative imagination disappears completely in no man; it only becomes accessory" (p. 170.3). An ability to adapt to new challenges and situations by creating things is proof that humans do not dwell in their past alone, but are able react to their present and envision the future in both innovation and behavior (Pelaprat, 2011, p. 415). "It is precisely human creative activity that makes the human being a creature oriented toward the future, creating the future and thus altering his own present" (Vygotsky, 2004, p. 9).

The social construct, cultural longevity, and the individual himself are the components that Csikszentmihalyi (1999) identifies as the forces promoting creativity (p. 315). “This crystallized imagination that has become an object begins to actually exist in the real world, to affect other things. In this way imagination becomes reality” (Vygotsky, 2004, p. 20). Culture may drive the opportunity for innovation to happen, but it requires the dialogue and critique of others to challenge and hone the creation (Pelaprat, 2011, p. 415).

The essential need of a human to create speaks to his/her ability to communicate meaning in a social, reflective environment while ignoring temporal and personal constructs. This ability is honed through dialogue both internal and external and is shared across all disciplines as the need for invention manifests across every aspect of life. The creative act defines the professional identity of design professions.

Creative attributes. To teach design is to contend that it is teachable. Lawson’s (1997) book, *How Designers Think: The Design Process Demystified*, identifies “design thinking [as] a skill. Indeed it is a very complex and sophisticated skill... one that can be analysed, taken apart, developed and practised” (p. 12). Being aware of “problem-solving styles” (Chung & Meneely, 2012) and creative attributes can assist in identifying one’s strengths and weaknesses so that improvements to creative personal and professional development can be made. Group dynamics are also impacted by the attributes of team members (Chung & Meneely, 2012). Attributes that describe a creative person include:

Table 1

Attributes of a Creative Person

Attributes	Citation
above-average intelligence	(Maddux & Galinsky, 2009, p. 4)
achievement via conformance	(Feist, 1998)
agreeableness	(Martinsen, 2011)
ambition	(Feist, 1998; Maddux & Galinsky, 2009, p. 4; Martinsen, 2011)
an asocial personality	(Feist, 1998)
autonomy	(Feist, 1998)
broad interests	(Chung & Meneely, 2012)
cognitive flexibility	(Feist, 1998; Maddux & Galinsky, 2009, p. 4; Martinsen, 2011)
coldness	(Feist, 1998)
conscientiousness	(Karwowski, Lebuda, Wisniewska, & Gralewski, 2013)
creative thinking	(Casakin, Davidovitch, & Milgram, 2010; Karwowski, Lebuda, Wisniewska, & Gralewski, 2013; Martinsen, 2011)
discipline	(Feist, 1998)
dominance	(Feist, 1998; Martinsen, 2011)
driven	(Feist, 1998)
emotional stability	(Karwowski, Lebuda, Wisniewska, & Gralewski, 2013)
emotional instability	(Feist, 1998; Martinsen, 2011)
emotional sensitivity	(Feist, 1998)
energy	(Maddux & Galinsky, 2009, p. 4)
good impression	(Feist, 1998)
hostility in protecting creation	(Feist, 1998)
imagination	(Feist, 1998; Martinsen, 2011)
impulsiveness in pursuing an idea	(Feist, 1998; Martinsen, 2011)
independence	(Chung & Meneely, 2012; Feist, 1998)
introverted	(Feist, 1998)
less conventionality	(Feist, 1998)
less conscientious	(Feist, 1998)
motivated	(Karwowski et al., in press; Maddux & Galinsky, 2009, p. 4; Martinsen, 2011)
need for originality	(Martinsen, 2011)
norm-doubting	(Feist, 1998)
originality	(Martinsen, 2011)
openness to experience	(Feist, 1998; Karwowski, Lebuda, Wisniewska, & Gralewski, 2013)
perseverance	(Feist, 1998; Martinsen, 2011)

Table 1 cont.

preference for complexity	(Chung & Meneely, 2012; Martinsen, 2011)
responsibility	(Feist, 1998)
risk taker	(Chung & Meneely, 2012; Maddux & Galinsky, 2009, p. 4)
self-acceptance	(Feist, 1998)
self-confidence	(Chung & Meneely, 2012; Feist, 1998; Karwowski, Lebuda, Wisniewska, & Gralewski, 2013; Maddux & Galinsky, 2009, p. 4)
self-efficacy	(Karwowski, Lebuda, Wisniewska, & Gralewski, 2013)
socialization	(Feist, 1998)
tolerance for ambiguity	(Chung & Meneely, 2012; Maddux & Galinsky, 2009, p. 4)
visual imagery	(Casakin, Davidovitch, & Milgram, 2010)

Of these attributes, many fall under the umbrella of self-efficacy as it relates to the confidence that one has about her/his ability to handle ambiguous situations and problems. Self-efficacy further “intermediates the relationship between creative potential and achievements” (Karwowski, Lebuda, Wisniewska, & Gralewski, 2013, pp. 215-216) by enhancing/valuing “divergent thinking” (Karwowski, Lebuda, & Wisniewska, 2012, p. 3), “self-reported originality” (p. 13), “self esteem, intrinsic motivation, and emotional intelligence” (p. 14).

Self-efficacy may also motivate individuals to pursue their creative passions. Noting that motivation is a driving element in creativity, Kreitler and Kreitler’s (1987) theory of cognitive orientation (CO) is based upon the assumption that our behavior is driven by cognition that enable the person to identify, understand, and accept as a belief (p. 112). Casakin and Kreitler’s (2008) investigate the concept that “motivation is a function of a set of belief types, themes, and groupings identified as relevant for the development of creativity” (p. 479). Using their CO theoretical approach, research on the differences between the creative motivation of architectural and engineering students was

done to gain insight on how to improve those types of programs using this “all-embracing theory of motivation” (p. 478). They contend that creativity in design education is predominately taught with the focus on the “mechanics of creativity” (p. 479) rather than discovery of the underlying motivation that drives the creative act. Possible reasons for this can be that the cognitive acts of “memory, perception... [and] thinking” (p. 479) appear effortlessly without an apparent need for motivation or that the motivation behind the cognitive act is so well hidden. CO’s key tenet is that “outputs depend on a motivational disposition” (p. 479) in which the person’s beliefs and domains of knowledge align. These beliefs are categorized into four types about: 1) Oneself and the self-image; 2) “Rules and norms” expressed socially, ethically, and esthetically; 3) “Reality and others... concerning others and the environment”; and 4) “Goals” (p. 480). “Directionality and strength are the main characteristics of the motivational disposition” (p. 480) with the stronger motivation being the one where more beliefs are directed at one activity. “The process of formation of the motivational disposition is not under conscious and voluntary control,... [nor] is... [it] necessarily rational or reasonable” (p. 481) thus awareness of the underlying motivations driving the student can improve the impact of design education (p. 482). Use of the CO questionnaire of creativity by Casakin and Kreitler (2008) resulted in identification of the similarities and differences of their sample of architectural and engineering students. The architectural students scored higher at inward focused attributes of “self development”, “inner world” view, self-direction, promoting self-uniqueness, comfortableness with ambiguity, and “self expression” (p. 486). Where the engineering students preferred operating in a structured environment, the architectural students relished the complexity of unpredictable situations. Thus,

identifying the motivational factor in students can assist in higher education and professional pursuits by making the student aware of his/her strengths and weaknesses.

Chung and Meneely (2012) emphasize the paradoxical nature of creative people as: “simultaneously playful yet disciplined, logical yet naive, humble yet proud, imaginative yet realistic, introverted yet extroverted, and masculine yet feminine” (p. 24). This paradoxical nature allows the creative person to be adaptable and work along the continuum of the two attributes enabling different perspectives to be considered about the design problem. The paradox continues in Mackinnon’s (1962) research as he relays the creative solution to be both personal to the architect and external as the answer to the problem. His 1976 research represents that the more creative architects were more

poised and confident, though not especially sociable. They were characteristically intelligent, self-centered, outspoken and, even, aggressive and held a very high opinion of themselves. Disturbingly it was the group of architects judged as less creative who saw themselves as more responsible and having a greater sympathetic concern for others. (Lawson, 1997, p. 155)

Mackinnon’s (1962) description of creative architects tends to confirm the often held belief that highly creative people may not be easy to work with and that they are not generally bothered by this (pp. 155-156). With *creating* being an internal, complicated act by a person that is difficult to describe to others, the aloofness of the creative person to protect this internal process can be misinterpreted by outsiders (Martinson, 2011, p. 197).

The creative person seeks to acquire as many experiences as possible to use as a pallet for problem solving. The ability to attain multiple experiences across a variety of contexts has historical significance on creative achievements as shown in Tornqvist’s

(2004) research where he shows evidence of the catalyst that cultural need, external stimulation, and presence of other creative people have had on human history. Solitude to reflect is an ingredient in the success of creativity, but “processes of renewal cannot develop in an empty space for long without stimulation and new outside impulses” (p. 228). In fact, the physical environments that bring people together have contributed to the creative vitality of a place. “The dense cities of the Middle Ages and the Renaissance, with their streets, squares and swarming folk life, were probably a more stimulating milieu than sprawling modern cities built for automobile traffic” (p. 232). Urban planning and architectural design accentuate this mingling of people as a strong element in the design solution.

The differences among people, their learning styles, and the way they process information such as seeing the big picture or details, abstract concepts or real-life issues, and use of emotions or logic can also contribute to and enhance creative performance (Chung & Meneely, 2012, p. 25). When the creative process is complicated further by forming problem-solving teams, the individuals’ abilities contribute to the dynamic team relationships as the team refines the design solution (p. 25). The team members may contribute different creative talents, but the communication factor, respect among team members, and collaboration become vital to success for team-oriented creative solutions.

It has been identified above that self-efficacy and motivation are important ingredients to increased creativity. The creative person has paradoxical tendencies that enable the ability to be open to different solutions without the being able to explain how the solution was identified. While the creative act is very individual, the critique and dialogue with others enables the design pallet and charrette to increase possible design

solutions. Identifying attributes and learning styles can contribute to a stronger design team organization.

Creativity in education. As creativity is highly recommended for success in today's world, Gross and Do (2009) maintain that to be competitive in our current world situation, creativity needs to be emphasized in academia (p. 215). Kowaltowski, Bianchi, and de Paiva (2010) contend, however, that in the majority of disciplines today, there is a lack of planning to promote creativity in higher education where instead analytical skills and principles are stressed with little opportunity for exploration in ambiguous assignments that trigger creative response (p. 456). Marquis and Vajoczki (2012) warn, however, that creative curriculum is discipline specific, and, as such, is not generalizable across disciplines (p. 2). In their research, they gathered data across six different departments in a university to ascertain how each defined, valued, and taught creativity in their disciplines (p. 2). Their results show that instructors had no proof of the effectiveness of their creative curriculum but tended to measure it by their opinion of "the creativity of the student work produced" (p. 10).

Even in creative pursuit, Casakin and Kreitler's (2010) research asserts that teachers and students "concentrate more on the mechanics of creativity than on the... [motivation] that triggers the creative acts" (p. 479), whereas Alencar's (1996) research reflects that students that feel creative "influence and orient their behavior and actions" (p. 129). Thus, design educators need an awareness of their student's inherent motivations to create rather than impose a creative system of specific steps to follow (Casakin & Kreitler, 2010, p. 479). Steps to follow restrict the students' discovery of their own creative impetus. Casakin and Kreitler's (2008b) research found a number of motivational themes with significant differences between creative and less creative

students. The largest themes include: “freedom to apply individual criteria, delve into the unknown, willingness to use talent to achieve originality, and readiness to make efforts and invest in the design task” (p. 479). For the educator, assessing motivations can assist in curriculum development that enhances creativity (p. 482).

With the move of design professions from the historic apprenticeship structure into higher education, academia, which was predominately the sciences and humanities, has required a more thorough understanding of the specific knowledge domains of different disciplines. "Basic knowledge in design refers to academic knowledge and skills of different disciplines... [where] design knowledge refers to knowledge and skills of the design discipline itself" (Christiaans & Venselaar, 2005, p. 219). Looking specifically at the differences between design and non-design professions and inspired by Thomas Kuhn's (1962) disciplinary matrix, Wang and Ilhan (2009) defined these differences based upon their different ontological perspectives (see Figure 1 below).

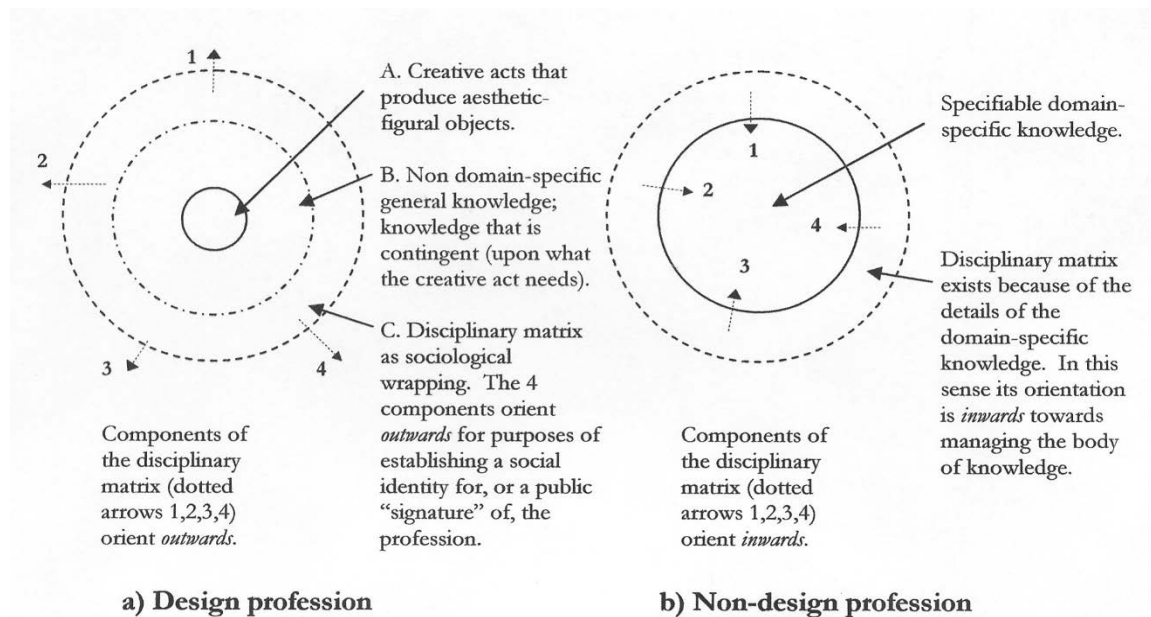


Figure 1: From “Holding Creativity Together: A Sociological Theory of the Design Professions,” by D. O. Wang and A. O. Ilhan, 2009, *Design Issues*, 25(1), p. 7. Copyright 2009 by the MIT Press. Reprinted with permission.

On sociological grounds, these professions consist “of three regions: (A) creative acts—to be defined; (B) non domain specific general knowledge; and (C) the disciplinary matrix as sociological wrapping... [The numbered arrows represent:] (1) symbolic generalizations; (2) shared commitments to models; (3) values; (4) exemplars” (p. 7). The directions of the arrows represent the flow of the knowledge domain where design professions differ from non-design in that their

disciplinary matrix... orient[s] outwards towards the general culture for purposes of establishing professional identity. In contrast, in non-design professions..., the elements of the disciplinary matrix orient inwards in response to the demands of domain-specific bodies of knowledge. (p. 7)

The design knowledge of design-professions is not seen much differently from the distinct knowledge of non-design professions, however, the core issue

in defining a design profession lies not in isolating the content of what it knows, but rather in discerning what it does (with any general knowledge that assists in the creative act) in a sociological process of defining itself to the larger culture. (p. 7)

In academia, the discipline pertains to subject areas delineating the profession, e.g., chemistry, biology, etc. Based upon Wang and Ilham’s (2009) Figure 1 above, biology’s disciplinary components of “symbolic generalizations; shared commitments to models; values; and exemplars” (p. 7) are at the core of the identity of that profession. In architectural design, however, these same components radiate outward to the *culture* dispersing the identity of the design profession leaving at its core the creative act which synthesizes the problem by means of the experience of the designer, historical precedent,

reflection on alternative solutions, and varying amounts of other disciplines' core knowledge, e.g., biology, medicine, etc., to create a finished product.

For architecture, then, a well-defined professional identity by sociological measures does little to delineate a well-bounded epistemological domain—because those boundaries are porous to all kinds of knowledge rooted in human experience in general, and not in some definable domain specifically recognizable as architectural knowledge. (p. 10)

Due to the need to call upon other disciplines' domains of knowledge for each new architectural design project, the American Institute of Architects in the United States has created the AIA Knowledge Communities (2013) that is a list of other disciplines' specific knowledge domains, e.g., medicine, religion, construction management, etc. This collection of knowledge is needed for application and inclusion in the amorphous knowledge domain of a specific project (Wang & Ilhan, 2009, p. 10). With the creative act at the core of design professions, the structure of design curricula to increase creativity is vital (p. 19).

The above information of the knowledge domain across disciplines identifies the extremely important aspect of the professional identity of design professions as not having a specific domain or knowledge, but rather the knowledge and skills of the design discipline itself. This pivotal difference affects both the ambiguous status of design professions in the university but, more specifically, the vital role that creativity plays in professional identity. Amplifying or suppressing creativity in the curriculum can affect the identity of the profession.

Creativity in architectural education. With architecture being both an art and science, architecture is centrally located on the continuum of design professions (Lawson,

1997, p. 4). The creativity associated with the profession is thought to be honed in the safe studio environment where design solutions, via models and drawings, are created, reflected upon, and critiqued (Kowaltowski, Bianchi, & de Paiva, 2010, p. 457).

Architectural design is mainly concerned with the creative manipulation of form, space, light, materials, and technologies with the aim to achieve an objective, which is aesthetic and functional. Creativity is a central aspect in design education, design research, and professional practice in architecture. (Casakin, Davidovitch, & Milgram, 2010, p. 31)

Creativity is enhanced by varied and expansive experiences that the designer can draw upon while he/she evaluates design alternatives (Lawson, 1997, p. 160). While in school, lack of experience or knowledge of historical precedent can limit the mind's palette of choices available to the student. "One of the paradoxes of creativity [is] that, in order to think originally, we must familiarize ourselves with the ideas of others" (Kneller, 1965, p. 49). Today's students must understand the significant contributions of their architectural ancestors as they analyze and synthesize contemporary design solutions (Lawson, 1997, p. 5). The crux of this acquisition of experience and knowledge is that the students not lose their own ability to produce original ideas (p. 161).

The Italian architect, Carlo Scarpa, known for the intricate details in his projects, exhibits architectural process by having a "conversation with the drawing" as described by Lawson (1997) as visible "evidence... of analysis through synthesis, or of the designer learning about the problem through trying to solve it" (p. 250). As the student and professional designer absorb the intricacies of the design problem, an important tool used is sketching, which is the act of seeing-studying-drawing that can imprint in the mind's eye the object or site. This imprint triggers the mind's recall ability with a more

understandable image than looking at the item or photograph (p. 246). The "recorded conversation" of drawings between the designer and the object may explain the decisions made, but the valuable dialogues between design collaborators, their historical and personal reflections, as well as, citations of sources of inspiration that congealed the design solution are typically absent (p. 257). Acquiring this process stresses the importance of the design studio format where students and professionals practice this "powerful 'language of design'" (p. 258) expressing "a willingness to live with uncertainty, consider alternative and perhaps even conflicting notions, defer judgment, and yet eventually almost ruthlessly resolve and hang on to the central idea" (p. 226). The ability to work in paradoxical pairings, envision with the mind's eye, and sketch may serve the architect well when dealing with the differing scales of the project and the vagueness of the design solution during the design process.

As the student transitions into professional life, the paradox of successful projects in educational design studio as compared to in the professional architecture firm is evident in the rewarding of higher grades for extremely creative solutions that do not adhere to social responsibilities or functionalism of the finished project (Kowaltowski, Bianchi, & de Paiva, 2010, p. 459). This can be exacerbated by the slick magazines used as teaching aids that show uninhabited architectural spaces and lack technical and user evaluations of the finished project (p. 459). Further the end of semester critique by professors and, often times, invited professionals allow valuable retrospection of the designed end product, but does not encourage a better design process during the semester working period (Lawson, 1997, p. 160).

Differing from the disciplinary training of contractors and engineers, architects negotiate between the diverse stakeholders in the project environment. The integration of

the construction documents, as well as, the collaboration between consultants, owner, and contractors require a level of multi-tasking that has its roots in the education of the architect. Honed in the future office environment, this juggling act begins in school where “designers are taught to keep options open, explore parallel alternatives, and embrace ambiguity... Generating and comparing alternatives at every stage is drummed into designers throughout their education” (Gross & Do, 2009, p. 214). It is this ability to work within ambiguous contexts and exposure to varying disciplines and their discipline specific language that enables the student to dialogue with all the stakeholders, first in school via peer reviews, professor/student interactions, and external critique committees, and then professionally. Understanding the varied levels of communications required by the architect with the diverse stakeholders and project deadlines, the training received in design and practice studios enable the architect to be flexible, handle professional presentations, be conversant in multi-disciplines, be able to multi-task, organize complex amounts of information, handle ambiguous situations, think on one’s feet, receive and give constructive critique, etc.

Creativity in the architectural profession. Once out in the architectural profession, the intern must adjust to the office studio environment of the firm for which he/she works. This phase of professional development gives the intern valuable knowledge and apprenticeship in the practice of documenting, coordinating, mediating, administrating, consulting, negotiating, and teaching the facets of architecture to clients, consultants, municipal officials, and contractors. As the intern assumes these challenges and studies for the licensing exam in the United States, the design emphasis he/she was trained in at school can all too often grow dormant. To keep the design skills fresh and the enthusiasm and creativity for design active, firms often choose to participate in design

competitions both externally and internally to keep the creative edge and interest of their employees and management (Styhre & Gluch, 2009, pp. 229-230). An example in Styhre and Gluch's (2009) research in one firm notes how for

one of the senior male architects... [who handled] various hospital projects, the public servant role was always implied in his assignments and in many cases his creative ambitions clashed with practical, juridical and financial aspects that had to be taken into account. (p. 230)

Unfortunately, the duties of administrative roles in the firm often overshadow and take away from the architect's "creative ambitions" (Styhre & Gluch, 2009, p. 230). Once the architect becomes established in the firm, they realize the lack of time to research and explore design ideas that can lead to creative solutions and different perspectives of the problem. Production and completing deadlines are the priority for a successfully run practice. The importance and challenge for architects in building a portfolio and résumé stresses "being creative and exploring and exploiting one's creative skills" (p. 230) as imperative for future job opportunities, in-firm mobility, and successful marketing practices. The diminishing nature of the time to create "is then no empty gesture or an attempt to safeguard prestige [in dealings with] other professional groups... but is rather a form of reproduction of the institutional setting of their professional field" (p. 230).

In the professional world, respect and recognition from one's peers is very important, perhaps more so than the public's opinions (Styhre & Gluch, 2009, p. 230). In reflecting on Wang and Ilhan's (2009) domains of knowledge for all non-design disciplines being inwardly oriented and architecture's professional identity being outwardly-oriented, this difference proves problematic for architects' role as the negotiator between all the stakeholders (p. 230).

An issue in the industry... [is the] rather poor mechanisms for organized knowledge sharing... Architects thus struggle... to both justify their expertise and their domain of jurisdiction in the construction process. This include[s] the educational challenge of explaining to other stakeholders how they were capable of balancing aesthetic, technical and economic concerns in the specific project. (p. 228)

Furthermore, the complex relationships between owner, architect, and contractor in standard project delivery often results in the architect being taken out of the loop of decisions once construction starts where creative and innovative solutions are often “abandoned in favour of cheaper alternatives” (Styhre & Gluch, 2009, p. 229) to lower costs at the peril of the design intent. This undermines the architect’s professional status. A status noted by architect Richard Neutra (1994) in his thoughts on the value of architecture and role of the architect.

Whereas the practical side of building is a matter of construction and materials, the very nature of architecture makes it dependent on the mastery of space.

Architecture is becoming again an integral part of our life, a thing dynamic, not static. It lives, it changes, it expresses the intangible through the tangible. It

brings inert materials to life by relating them to the human being. (p. 288)

With the advent of building information modeling, the addition of other stakeholders into the design process has complicated things further. “There is still a strong sense among architects of a professional imperative to maintain creativity and to take responsibility for the aesthetic values of the built environment” (Styhre & Gluch, 2009, p. 230). The design team now often consists of the architect, owner, consultants, and contractor which eliminates the architect having the time to create, analyze, reflect, and refine the design

without others questioning the process and decisions made. “Creativity is... threatened by the day-to-day routines, which gradually and at times unnoticed push the creative activities into the margins of the work, thereby slowly rendering the daily work devoid of the highly praised creative endeavours” (pp. 231-232). The team approach, however, potentially “brings diverse perspectives, expertise, and thinking styles, which increases the potential problem-solving space for developing creative solutions” (Chung & Meneely, 2012, p. 23). Understanding the complexity of today’s projects, architects work in these teams to meet the shortened timetables, complexity of projects, and advanced technologies while asserting the importance of their contributions to the process for the other team members. Much is written about this dilemma on the identity of the architectural profession and, as can be seen in the Creativity in Education section, understanding the specific domain of knowledge quandary is imperative for the profession in protecting its relevancy in today’s market.

The language of architecture honed in studio stresses the process of intense creativity and requires synthesis of structural concepts shaped by abstract and philosophical ideation while being sensitive to cultural, historical, and societal meanings (Boyer & Mitgang, 1996). Thus, the education of architects is unique in that it requires access to a wide variety of experiences that encourage and enhance their creative abilities. Indeed, architectural language attempts to capture this dialogue. In the following example, Architect J.J.P. Oud (1994) explains his own architectural philosophy stating that

the drive to abstraction demands completion by striving for melody. Pure abstraction is like religion without humanity. Humanity is life in the flowing continuation of daily existence. The course and rhythm of daily existence

demands architectural melody... Nearly everyone can design, at present a good building. But we want more, we want buildings that can move us. (p. 280)

As the architectural process requires profound creativity, thought processes of structural soundness, as well as, abstraction and philosophy, cultural and historical sensitivity, and societal meaning, the education of these individuals is unique and, ultimately, cannot be done adequately without a wide variety of experiential, emotional, intercultural, cross-cultural, technical, historical, beautiful, and creative practice experiences. Reflecting back on T. S. Eliot's (1921) thoughts on the temporal construct of the creative process, Taylor (2003) points out that "architecture that is critical for its time must point toward a future emerging in the present" (p. 132). The architect dialogues in the language of creativity and its' many facets.

The different discipline-specific languages brought into multi-disciplinary teams of designers, engineers, contractors, and owners, contribute to the different perspectives and understanding of the goals each stakeholder is pursuing, "Little has been done [however] to understand our development as designers. Indeed design is generally taken for granted in our society and design skills are perhaps rather undervalued" (Lawson, 1997, p. 263). Envision a design team composed of an architect, engineer and contractor. In describing the design objective of the architect, let us use Taylor's (2003) description of American architect Steven Holl's Simmons Hall dormitory at MIT, which represents a new morphology of a sponge.

The boundaries separating inside from outside as well as the vertical and horizontal dimensions of the project are porous. This porosity forms a complex structure in which walls not only divide and separate, but also connect and relate so that communication among internal spaces, as well as, between inside and

outside, becomes possible. In contrast to the stasis of the exterior grid of Moll's Simmons Hall, the interior sculptural spaces create a sense of vitality and flow characteristic of living organisms. The way in which biomorphic spaces emerge within the structure of the grid suggests how digital programs generate artificial life, artificial intelligence, and information organisms that are virtually alive. (p. 132)

Taylor's (2003) description of the building would most likely be understood by someone architecturally trained, but the other stakeholders that the architect coordinates with speak different discipline-specific languages. Problems can arise in the working relationship and can explain "why ordinary people sometimes feel a little intimidated [or confused] by professional designers" (Lawson, 1997, p. 263). Trained to think and design in architectural language, the architect, as coordinator of the multi-disciplinary team, must be able to articulate in the other stakeholders' disciplines and orchestrate understanding among all parties. This requires the architect acquire multi-disciplinary understanding obtained from courses in many disciplines and continuing exposure to current trends in other disciplines and technologies to be fluent enough to have such a dialogue. "Architectural school should be understood as the first step in a lifelong learning process that extends through internship and passage of the licensing exam and continues throughout professional life" (Boyer & Mitgang, 1996, p. 76). Language barriers can create an obstruction in team success and, for architects, the feeling that they are devalued and misunderstood among the other professions.

Creative process. Historically, the creative process has evolved from the craftsman based model (the master builder/craftsman as designer and contractor) to the professionalized process we have today due to time constraints and cultural and

technological advances. The current, standardized production of drawings is considered the “traditional form of design” (Lawson, 1997, p. 22) where design drawings are used by the designer to work through alternatives as he/she dialogues with the drawings (p. 24). After the design has been made, the designer produces construction drawings to relay the instructions for construction of the object designed delineating the separation of design and craft.

The creative process requires a cyclical approach of different phases of thought that include: investigation into the problem; unconscious incubation; in-depth understanding allowing different perspectives and pliability; and, finally, synthesis and testing of the design solutions (Griffin, 2013; Kneller, 1965; Kowaltowski, Bianchi, & de Paiva, 2010; Poincare, 1924). Reflection, dialogue, and critique are valuable tools used during this process. Creating “involves periods of very intense, fast working rather like juggling, and the relating of many, often incompatible or at least conflicting demands” (Lawson, 1997, p. 157). Trained in the creative process and armed with alternative solutions, the architect accepts the ambiguity as part of the journey (pp. 157-158). Even for those trained in the creative process, identifying when and how to remain "creative" is a challenge.

Focusing on the creative process, the teaching-learning strategy of design education in architectural studios is predominately project-based. The project’s program is given to the students with limitations created to challenge the design parameters. The application of personal experiences, technical knowledge learned from supporting classes, references to past architectural solutions, and critiques are the tools students use to create their design solutions. Christiaans and Veselaar (2005), however, question the effectiveness of this method in increasing the creativity of the students. Designers have

different methods of creating and thus a standard rule of tracking all ideas to identify the path traveled to reach a successful design solution can be difficult to replicate by both the designer and others. Attempts to create “rationality in design may not embrace important concepts such as value judgment, context and uniqueness” (Kowaltowski, Bianchi, & de Paiva, 2010, p. 455). Complicating the process further, unlike academic writing, a designer does not cite her/his sources of inspiration. “Designers do not apply universal methods and rarely externalize their thought process” (Kowaltowski, Bianchi, & de Paiva, 2010, p. 455). Images of past architectural solutions by others are but kindling doused with the flame of the designer’s personal experiences and knowledge tempered by the design parameters. The stacks of trace paper sketches that accompany this process can, upon reflection, illuminate the creative moment. Thus, instilling the practice of sketching and reflection is a critical tool for the architect that should happen in the studio environment (p. 463).

Being such a vital element to architectural education, there exist many methods to stimulate creativity in architectural studios (Clegg & Birch, 2007; de Bono, 1992; Mycoted, 2007), however, these are but varied approaches to experiencing the design problem. The ability to reflect upon the problem is vital, but more so is the ability to see the problem from multiple perspectives. Brainstorming is one such method where others join in a dialogue about design solutions (Kowaltowski, Bianchi, & de Paiva, 2010, p. 463; Lawson, 1997, p. 206). Not only do more ideas get vocalized, discussed, and generated, but the interaction with others increases the designer’s negotiating and leadership skills. The larger the project, the more these skills come into play to protect the central design concept from the other stakeholders involved, e.g., owners, consultants,

contractors, etc. (p. 265). The possibility of tension in these interactions heightens the intensity of the role the designer must work under (p. 264).

The creative process is both ambiguous and individual with attempts to teach as a formula limiting the essence of creativity. The designer must have the opportunity to explore multiple processes and tools that enable their creative ability. As these abilities mature, so too does the art of presentation and communication that is needed to successfully defend any artistic endeavor. Exposure to diverse projects, peoples, and cultures amplifies the designer's arsenal.

Creativity and living abroad. Designing in one's own culture with others that share your culture can be limiting to a development of creative ability. Maddux and Galinsky's (2009) research looks at five different studies with a sample variety of disciplines of graduate and undergraduate programs in the U.S. and Europe. Their aim was to "explore the link between living abroad and creativity" (p. 1047). Two of the studies showed a positive relationship while the third presented a temporary enhancement to creativity from living abroad. The fourth identified that it was the degree that the person "adapted to the different cultures while living abroad [that] mediated the link" (p. 1047) while the fifth found that reflecting upon "the experience of adapting to a foreign culture temporarily enhanced creativity" (p. 1047). In Maddux, Adam, and Galinsky's (2010) research on whether "living in and adapting to foreign cultures facilitates creativity" (p. 731), their comparative experiments between participants that lived abroad and those that had not showed that for those who had lived abroad an increase in problem solving ideas, awareness of the interconnectedness of different cultures, and the need of open-mindedness as our culture can act as both a "coordination device and as a constraint on thought and behavior" (p. 731). They contend that living abroad in another culture

allows these multicultural experiences that can be “powerful enough to alter brain structure and basic perceptual tendencies” (p. 733) that can enhance creative potential.

The critical component is that the person must have

acquired, understood, and cognitively integrated new information about a foreign culture... When people learn about a new culture, they are highly likely to challenge the culture-specific assumptions from their home culture; destabilize routinized, culturally constrained responses; integrate and combine new ideas into existing cognitive structures; make novel connections between ideas; and have major new insights. (p. 733)

Maddux, Adam, & Galinsky (2010) further argued that once this potential has been reached, the individual need only reflect back on the living abroad experience to increase their creativity (p. 733).

The attributes associated with creative persons and the impact of a living abroad experience on the participants align with Maddux and Galinsky’s (2009) research hypothesis “that experience living abroad may be related to creativity” (p. 5). Specifically, the common traits of creative persons they have found in their investigations are “above-average intelligence, tolerance of ambiguity, risk-taking, energy, self-confidence, intrinsic motivation, ambition, and cognitive flexibility” (p. 4). These traits are in line with the transformations that have been reported by students after a SA period (Clarke, Flaherty, Wright, & McMillen, 2009, p. 176). Stimulants to improved creativity include: living abroad, interacting with and adapting to the foreign culture, exposure to different perspectives and ways of thinking and expression, “novel ideas and concepts” (Maddux & Galinsky, 2009, p. 5), “readiness to accept and recruit ideas from unfamiliar sources... facilitating the processes of unconscious idea recombination” (Schooler &

Melcher, 1995), and conceptual expansion (Leung, Maddux, Galinsky, & Chiu, 2008; Ward, Smith, & Finke, 1999). Maddux and Galinsky (2009) found that simply traveling abroad did not trigger the enhanced creativity; however, adaptation to another culture did (p. 6). This corresponds with what Vygotsky (2004) believed to be the “ability to assimilate... another’s experiences or narrative [and how it] expands our own ability to conceptualize... experience based upon imagination” (p. 17). Lee, Therriault and Linderholm’s (2012) research on study abroad and creative thinking found that the “process of juxtaposing and synthesizing cognitive elements from two or more cultures has been linked to increased creativity... with creative thinking... associated with tolerance for ambiguity” (p. 775). The longer the duration of the living abroad experience, the higher level of creativity was observed (Maddux & Galinsky, 2009, p. 24). Further, Maddux and Galinsky’s research suggested that reflection on the experience, itself, can produce an increase in future creative endeavors, a concept that Vygotsky (2004) contends needs “a particular set of conditions” (p. 8).

Thus, expanding our cultural awareness beyond our own culture has the capacity to increase our creative abilities by exposing us to different perspectives of thought and processes. This increase can also be triggered upon reflection of the experience while studying abroad. The architectural culture of promoting study abroad in the educational portion of the profession reflects evidence of the professions understanding of the ramifications of cultural awareness. As creativity is the domain of knowledge of the profession, increasing it is critical.

Conclusion on creativity. Vygotsky (2004) states that “in the everyday life that surrounds us, creativity is an essential condition for existence and all that goes beyond the rut of routine and involves innovation... [which] owes its existence to the human

creative process” (p. 11). Further, with creativity being at the center of the professional identity and domain of knowledge of the architect, finding ways to enhance creative ability should be the major focus of the individual, academia, and the profession. The attributes associated with the creative person correlate to the transformative effects that a SA experience has on a student that continues on into their professional career. SA is thus a catalyst to the improved creativity of the architectural student and professional intrinsic to their professional identity, as well as, the critical element of cultural awareness that contributes to the architect’s intentional “construct [of] a new reality, one that conforms to his own needs and desires” (p. 12) as he synthesizes the representation of his culture and time.

Study Abroad

Noted by Vande Berg (2007), the increase of United States’ university students going abroad is three times what it was 20 years ago (p. 393). This increase in participants from all disciplines confirms that the global and cross-cultural experience is an important educational component in our global society. Ortiz’s (2004) research identified the global concepts that students studying abroad need to acquire to be competitive in the global workforce. His categories include “social, legal, economic, political, and technological... [that North American universities] justify [as creating] greater internationalization” (p. 255).

With the increased demand of a globalized workforce, SA is seen as a contributing factor in the attainment of intercultural proficiency and self-efficacy. Clarke, Flaherty, Wright, and McMillen (2009) posit that to attain the ability to work with and communicate well with others, individuals “need more ‘concrete experiences’ with other cultures to actually prepare them for the complex, multicultural global

marketplace” (p. 173). This exposure to other cultures and different ways of thinking and doing require learners to become aware of their own cultural identity, thought processes, and actions, thus requiring consideration of alternative methods.

Researchers have found the following common outcomes exhibited by students after a SA experience:

1. Academic Development – advanced degree pursuit, problem solving, language skills, geographical and historical knowledge, transition from study to employment, competencies on graduation (Anderson, Lawton, Rexeisen, & Hubbard, 2005; Brux & Fry, 2009; Coryell, Durodoye, Wright, Page, & Nguyen, 2010; Coryell, 2011; Coryell, Spencer, & Sehin, 2013; Michigan State University, 2013; Paige, Fry, Stallman, Josi, & Jon, 2009);
2. Intercultural Development - globally minded, cultural pluralism, interest in other cultures, diminished ethnocentrism, cultural sensitivity, interconnectedness, volunteer work, monetary donations, domestic and international civic engagement, stronger intercultural communication skills, more favorable attitudes toward other cultures (Anderson, Lawton, Rexeisen, & Hubbard, 2005; Clarke, Flaherty, Wright, & McMillen, 2009; Brux & Fry, 2009; Coryell, Durodoye, Wright, Page, & Nguyen, 2010; Coryell, 2011; Coryell, Spencer, & Sehin, 2013; Michigan State University, 2013; Paige, Fry, Stallman, Josi, & Jon, 2009; Tiechler & Janson, 2007);
3. Personal Development - efficacy, identity, flexibility, creativity, self-reflexivity, self-confidence, improved personal self-image, ability to handle ambiguity, insight into own value system, overall maturity (Brux & Fry,

2009; Coryell, Durodoye, Wright, Page, & Nguyen, 2010; Coryell, 2011; Coryell, Spencer, & Sehin, 2013; Michigan State University, 2013);

4. Professional Development – career choice, networking, responsibility, career enhancement, international mobility, international competency, employment situations, links between study and subsequent work assignment, improved professional self-image (Brux & Fry, 2009; Coryell, Spencer, & Sehin, 2013; Michigan State University, 2013; Paige, Fry, Stallman, Josi, & Jon, 2009; Tiechler & Janson, 2007).

Anderson, Lawton, Rexeisen, and Hubbard (2005) argue that, in our world today, exposure to other cultures and world affairs is becoming a crucial component to success. “An international education is becoming a necessity, not a luxury, and study abroad is one of the best ways to get such an international education” (p. 458). A practitioner benefits from “his own interaction with others” (Argyris & Schön, 1974, p. 159).

Universities and their pedagogy are also impacted by SA programs. As researched by Coryell (2011), "interrelationships among learners, professors, the academic content, the foreign culture and individuals, and the individual learners themselves, should anchor effective program design" (p. 9). Some programs offer the student the chance to study with the teachers and location under the control of the program while others allow the freedom to choose a program separate from the school that meets certain requirements with transfer credits (Teichler & Janson, 1991). While SA programs are powerful recruiting tools for universities, Engle and Engle (2003) recommended, in this environment of increasing SA enrollments, careful consideration of the program design and a categorizing of the different types of SA opportunities that the student can select from based upon their interests and needs. SA can thus enrich the

existing academic experience by contributing the many attributes listed above while preparing more globally minded professionals.

Study abroad types. SA programs from many disciplines have been scrutinized in studies concerning the duration of experience, quality, transformative potential, risk, and expense that is incurred (Brux & Fry, 2009; Dwyer, 2004; Teichler & Steube, 1991). Dwyer's (2004) investigation of the impact of the varying durations, from short-term to year-long programs, reported that each duration reflects an increase in "intercultural and personal development" (p. 161) with a significant increase in this development for the year-long terms. She further noted the impact can be felt even 50 years after the experience suggesting that studying abroad can conceivably affect the student's future professional career. Anderson, Lawton, Rexeisen, and Hubbard's (2005) research on short-term SA found participants increased in intercultural sensitivity development, whereas Janes' (2008) research on longer stays correlated the length of stay with the depth of awareness of other cultures and of the students, themselves. SA programs vary from campus to campus and often within the same campus allowing students different experiences. Janes' research also compared the SA experience to that of being a tourist with the SA results reflecting a paradigm shift by the students resulting from their new cultural awareness gained in their "active" interaction with others. The advantages, expense, increased international competitiveness, and risk of participating in a SA program are major considerations that students, their families, university program designers, institutions, and governments have to weigh in their decision making process (Asaoka, 2009; Doyle, et al., 2009). Thus, the duration and level of immersion to other cultures has been shown to impact the effects of SA.

Study abroad and the individual. The experience of living and learning in a foreign culture "increase[s] self-assertion, self-initiative, decisiveness, flexibility, and the ability for teamwork... Intercultural competence demands for the ability of sensitive, reflective, and productive acting in situations of interaction with people from foreign cultures" (Behrnd & Porzelt, 2011, pp. 1-2). Communication, both verbal and non-verbal, can impact cultural exchange. For example, to slap your hand in emphasis to a statement in one country can mean the discussion is complete in another (Paige, Cohen, Kappler, Chi, & Lesegard, 2007, p. 133). The impact of SA also creates a cultural identity and belonging (Blum & Bourn, 2013, p. 42) that enables the students to understand their own culture and how different the reactions can be in people of different cultures, "thus, culture serves both as a coordination device and as a constraint on thought and behavior" (Maddox, Adam, & Galinsky, 2010, p. 731). These differences span the continuum from personal to professional interactions (Behrnd & Porzelt, 2011, pp. 1-2).

Important to individual design professionals, Maddux, Adam, and Galinsky's (2010) research referenced in the creativity section above found evidence that learning in a multicultural context is a critical component that drives the link between foreign cultural experiences and creativity (p. 736). Being able to access this spark as the student moves into the profession is vital in architecture as creativity is the major component in the identity of the profession (Wang & Ilhan, 2009, p. 7) and of the architect himself/herself. Maddux and Galinsky's (2009) results confirmed that

culture is such a pervasive force, impacting and shaping every aspect of one's life, adapting oneself to a new culture – learning how to behave and think in a different way – may make individuals chronically aware of multiple perspectives

and approaches when dealing with mundane and novel situations and, thus, may be associated with increased creativity. (p. 1054)

The potential for personal and professional growth that a SA experience contributes adds a meaningful argument for inclusion in an already compact curriculum and the added interest, risk, and expense of academic programs. For design professionals, Maddox & Galinsky's (2009) connection between an increase in creativity from living abroad directly links to professional identity.

Study abroad in architectural education. An architectural education program has the responsibility to prepare the learner with the knowledge and skills for the transition to the professional career of architecture. As part of the architectural curriculum, SA encourages further multidisciplinary studies, career directions, and cultural competence as the student reflects on the experiences (Culver, 2011; Paige, Fry, Stallman, Josi, & Jon, 2009) and "how the experience and exposure of foreign cultures influence... the personal and professional development of the participants" (Culver, 2011, p. 8). Promoted as such, the addition of a SA component in architectural studies has a major impact on the student, the profession, and community as a whole as it increases student efficacy, global-mindedness, and cultural awareness (Texas A&M University, 2013; Virginia Tech, 2013). Culver (2011) makes the connection of architectural SA programs today being similar to "the notion of the Grand Tour involving travel to countries like Italy, France, Germany, and England... [and it being] an extension of a classical education in Ancient Greek and Latin during the 18th and 19th centuries" (pp. 5-7). Promoted primarily in undergraduate programs, graduate students are often not encouraged or required to SA due to limited course curriculum (Texas A&M University, 2013).

Culver's (2011) research on the SA experience of architectural students presents the importance that the experience has on the professional education they receive. His research found that a global perspective with personal insight into the actual forms of ancient and modern architecture enables a deeper design interpretation. Using a qualitative approach, Culver interviewed and analyzed drawings produced by students for the experiential qualities of the SA experience. He posits that: 1) the SA experience could help lessen the high rate of attrition in architectural programs by inspiring the students in their studies (p. 3); 2) SA can create a greater tolerance of diversity in gender and race in the education and practice of architecture (p. 12); and 3) personalization of the temporal differences experienced by exploring the ruins of a past civilization and awareness of architecture's role in the history of a society's memory (p. 15). He concludes that the students were inspired by their SA experiences to pursue future academic studies in a need to greater understand and improve their architectural abilities, were open to relocating for professional or further educational opportunities, realized the varied opportunities in the field of architecture, increased their confidence to make career change decisions, and realized their professional capabilities (p. 211-213). Where Culver's assertion is to increase the "understanding [that SA is] crucial in helping to make international study and travel an integral part of the architectural curriculum" (p. 6), a review of the websites of the top architectural schools in the United States clearly illustrates, by their requiring and highly recommending SA, that undergraduate architectural education is aware of the important contributions that these experiences provide to students educationally, individually, and professionally. To fully absorb the SA experience, Pendersen's (2010) research suggests that there needs to be a support system of reflective practice that promotes "guided reflection and intercultural pedagogy

to help them grow interculturally... that will ultimately facilitate global citizenship” (p. 79). Brux and Fry’s (2009) research contends, however, that international SA offers the greatest opportunity for growth to meet “the academic, cultural, personal, and career goals of all students” (p. 508) which is echoed by Paige, Fry, Stall, Josie, and Jon (2009) statement that SA promotes “further graduate studies, career paths and global engagement” (p. 42). SA is an intrinsic component of an architectural education and contributes to the growth of the future professional.

Study abroad and professional architectural practice. The SA experience enriches the dialogue between the CoP (Lave, 1991) of the individual, professional, and academic components. It also increases cultural awareness that is desired by countries that identify the value that greater communications, improved economies, trade, and services have on their market position (Doyle et al., 2009, pp. 471-472). This has prompted promotion of SA programs to insure placement in international markets (Clarke, Flaherty, Wright, & McMillen, 2009; Doyle et al., 2009; Salisbury, Umbach, Paulsen, & Pascarella, 2008).

As a leader in host countries for SA, the United States government understands the role that globally competent citizens play in labor migration (di Pietro & Page, 2008, p. 390). The U.S. Senate declared “2006 the Year of Study Abroad [to promote citizens with] a deeper understanding and respect for global issues” (Salisbury, Umbach, Paulsen, & Pascarella, 2008, p. 120).

With the increase of the minority population of the U.S. and globalization of markets... to more multinational enterprises, exponential growth in foreign trade, the creation of an increasingly diverse consumer base, and extended efforts at international marketing..., the ability of the marketer [, student, or professional]

to understand and communicate effectively with people of various cultural backgrounds is quickly becoming a requisite skill for success. (Clarke, Flaherty, Wright, & McMillen, 2009, p. 173)

Although there is a lack of research done on the impact of SA on architectural education (Culver, 2011), many other disciplines have researched the subject of how SA is situated in professional education. Their results, thus, can be extrapolated to build the argument for further research about SA's impact on architectural learning, if not also an increased SA requirement in professional architectural education.

Intercultural proficiency. Clarke, Flaherty, Wright, and McMillen's (2009) research with marketing students supports that a higher level of intercultural sensitivity differentiates SA students from students remaining on campus (p. 176). "Intercultural proficiency is defined as the knowledge, skills, and attitudes/beliefs that enable people to work well with, respond effectively to, and be supportive of people in cross-cultural settings... [and has been] identified as a crucial business success factor" (p. 174). The authors contend that students need actual experiences with cultural diversity to prepare them for the "complex, multicultural global marketplace" (p. 173). Similarly in education, the context and location replace the classroom and places the student in real-life scenarios that develop "global sensitivities" on a different level (Coryell, 2011, p. 10). SA offers students the ability to obtain personal experience in dealings with diverse cultures which can in turn result in intercultural proficiency.

Intercultural competence in the workplace is an important contribution that a student who has studied abroad often has to offer. As noted by Klahr and Ratti's (2000) research of U.S. and European SA programs for engineering students, professions are increasingly more apt today to have international working relationships requiring the

need to understand “international trade and development of technological products within the global economy, and [have] the skills to live and work in foreign countries. These international skills can only be learned through 'a live confrontation with reality' provided by studying abroad” (p. 79). Their study relates the lack of communication between educators and the industry in both the U.S. and Europe to meet the demand for a workforce with international skills and ability to “integrate economic, industrial, technology-related, political, education, and social factors to overcome imbalances” (p. 97). Klahr and Ratti (2000) posit that internationally skilled employees’ needs be better communicated to the academic portion of the engineering community of practice (p. 97). This study echoes those sentiments for architecture students, as well.

Architectural profession. Prior to organized architectural education and SA opportunities, travel and wars brought practicing architects and students into contact with other cultures that influenced the profession (Willis, 2005, p. 13). With the SA opportunities today, students can obtain components of intercultural competence as they relate to practice and skills required of an architect. From their own architectural experience, Decker and Duvall Decker (2007) emphasize the extent that an architect must draw upon the context and culture of each location of a new project before proceeding to the design phase. “Values such as privacy, security, durability, economy, identity, equality, education, and hope that emerge from local social circumstances” (p. 93) have to be considered by the architect. He is further charged with creating visual artistry that “offer[s] moments of reflection, an... [interval] to facilitate inquiry in experience” (p. 94) and must be trained and become receptive to the location's geographical aesthetics, light, site conditions, and available materials while the culture is examined for the economy, labor force abilities, and native forms.

Culver's (2011) research saw the SA opportunity contributing to a more globalized profession that could challenge the dominant "Eurocentric design emphasis... as well as, transform this current condition of inequity with the profession and study of architecture" (p. 14). Pointedly, Jarzombek and Hwangbo (2011) contend that the "future cultural relevancy [of architecture] depends [on its connection to] global epistemology" (p. 65). Instead of the limited study of projects by famous architects, the profession of architecture should be presented as the culturally connected and current representation of our global history (p. 65). SA experiences offer the architect a greater awareness of context and the intrinsic identity of place.

Conclusion on study abroad and professional practice. Research confirms that SA experiences increase the student's academic, intercultural, personal, and professional attributes by enhancing awareness of assumptions, creativity, cultural identity, flexibility, and reflective ability. SA and its cultural exposure results in a higher intercultural development than on-campus study (Anderson & Lawton, 2011, p. 86). For the design professions and their intrinsic need for increase creativity, Maddox and Galinsky's (2009) correlation between living abroad and an increase in creativity promotes a stronger professional identity. All levels of students, as well as, professionals, should be given the opportunity to SA as a catalyst to creativity and intercultural proficiency.

Conclusion of Literature Review

The increase of global connectedness and expectations in the architectural profession today require professionals to be globally competent, as well as, obtaining the knowledge and skill sets required to enter the profession where shortened timeframes, increased communications, and technological advances complicate the work

environment. These increased pressures permeate to the academic setting where the depth of historical pedagogy has been challenged to prepare an intern for entry into today's professions. In researching enhanced educational techniques, SA has been shown to prepare students in a more compact, encompassing manner for their complex situation. In the design professions, this complexity is amplified by the fact that creativity is the domain of knowledge and ambiguity is the natural order. SA, thus, is promoted by architectural education as it places students in many ambiguous situations that enhance their creative development, critical thinking skills, temporal awareness, and intercultural identity beyond the typical classroom or studio setting.

This research will expand knowledge on the impact that SA has on a student's professional career by probing their reflections as practicing professionals. It will also explore the development of the individual to illuminate the component of the intentional pursuit of further education, expand the research on SA as a catalyst to creativity, and reiterate creativity as the critical element of the professional identity of architecture. By identifying the components of the impact of SA, more architecture programs and academic levels of study may implement or expand upon their existing SA programs. Further, the contributions of the SA experience to the student's education and professional preparedness can be used for student recruitment. For the community of practice of the profession of architecture, this research can contribute to a stronger identity of the profession and its contribution to the global environment, establishment of professional level programs, enhance the facets of the inter-relationship between education, the profession, and personal/professional growth. For architecture, SA may be the intentional pursuit of increased creativity and, thus, a more viable professional identity.

METHODOLOGY

This study incorporates a phenomenological qualitative approach to reveal and synthesize the experiences of study abroad (SA) participants and examine the impact those experiences have had on their professional practice. The use of the qualitative approach corresponds to the constructivist paradigm and to the epistemological framework of Vygotsky's (1986) sociocultural theory as both deal with the interaction of people and their experiences. Sociocultural theory stresses the importance that cultural influences of mentorship have on our mental development and mastery (Cole & Scribner, 1978, p. 6). Thus, my theoretical approach and the use of qualitative research methods are in unison. Denzin and Lincoln (1994) explained that

“qualitative research... stress[es] the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry... [The researcher] seek[s] answers to questions that stress how social experience is created and given meaning” (p. 4)

The phenomenological approach requires gathering lived experiences and “examine[s] how human beings construct and give meaning to their actions in concrete social situations” (p. 204). It is these meanings made in the formation of a professional architect that experienced SA that will be analyzed. Interpretative phenomenological analysis (IPA) entails gathering the interpretations of the participants as they think about, reflect upon, and feel (Smith, Flowers, & Larkin, 2009, p. 3) the impact of the SA experience. Heidegger's hermeneutic phenomenology, being both a “micro-analysis and synthesis” (p. 24), is the interpretation of the lived experience as it is revealed in interpretation (p. 35). As the researcher attempts “to make sense of the participant trying

to make sense of what is happening to them” (p. 3), the researcher must identify and limit the influence, termed “bracketing” (p. 25), of any pre-conceived and personal experiences in analyzing the data. The use of Heidegger’s hermeneutic phenomenological approach is further pertinent to this research because of his writing on the importance architecture has to the lived experience “as people make sense first through their inhabitation of their surroundings, and their emotional responses to them” (Sharr, 2007, p. 2).

The research questions are:

Research Question 1: For practicing architects, what is the perceived impact of SA program participation on their professional identity, practice, and creativity?

Research Question 2: How does the synergistic influence of SA impact professional architectural identity?

Academic, intercultural, personal, and professional aspects of the individual’s lived experience has been probed to gather data necessary to analyze surfacing themes. The investigation of the SA experience can promote its importance in professional development and its role in fostering creative, independent, and global professionals that, in Vygotsky’s view, assimilate historical lessons to challenge present day topics (Bodrova, Leong, & Davidson, 1994).

Sampling Methods and Participants

Practicing architects from across the United States were purposively identified and screened for this study. Using referrals (Smith, Flowers, & Larkin, 2009, p. 48) and opportunities from my own professional contacts (p. 49) as my sampling methods, those with SA experience with varying levels of years practiced were approached as potential participants. Smith, Flowers, and Larkin (2009) recommend a select number of interviewees that “should provide sufficient cases for the development of meaningful

points of similarity and difference between participants... [without] being overwhelmed by the amount of data generated” (p. 51). Participants were screened for practicing a minimum of 2+ years, 5 to 10 years, and 15+ years. These different levels of acculturation into the profession and experience with actual clients and projects has enabled research into the impact SA has had on the architect’s professional identity, practice, and creativity. Keeping the participants to three in each category has allowed, as Smith, Flowers, and Larkin (2009) recommend, “a concentrated focus on a small number of cases” (p. 51). Analyzing the three time periods will enable the research to explore the length of impact SA has had and whether time limits Maddux, Adam, and Galinsky’s (2010) contention that reflecting back on the experience increases creativity (p. 733). Thus nine participants total were interviewed to comply with the requirement of more rigorous research at the doctorate level.

Table 2

Demographics of Participants

Alias	Gender	Ethnicity	State of School Attended	Years Registered	Location of Study Abroad
Bill	M	Caucasian	Kansas	2	Italy, China
Casey	F	Latino	Virginia	2.5	Switzerland
Butch	M	Black	Texas	3.5	Italy
Clarence	M	Caucasian	Texas	4.5	Italy
Reese	F	Caucasian/Greek	Texas	6	Italy/France
Miguel	M	Caucasian	Texas	7	Italy
Jeff	M	Caucasian	Texas	10	Western EU
Estelle	F	Caucasian	Mississippi	19	England
Robert	M	Caucasian	Texas	36	Mexico

Data Collection

Interviewees were informed at the onset of the semi-structured interview that they had the “right to withdraw at any time” (Smith, Flowers, & Larkin, 2009, p. 53). I have “facilitate[d] an interaction which permits participants to tell their own stories, in their own words” (p. 57). Even with pre-arranged questions, I was engaged in the interview and aware of the need to “listen... closely and probe...” (p. 58) as needed for rich descriptions. Protocol questions were reviewed for clarity and appropriateness of form. Interviews were recorded and consisted of an one hour semi-structured interview conducted online via Skype, by telephone, or face-to-face, where applicable, to gather participant perceptions, experiences, and stories of how SA has impacted their professional lives (if at all). The option of a second follow-up interview session was presented to the participants by the researcher as needed for further clarification of data. No follow-up interviews were conducted. Through their reflective thoughts on their past SA experiences and their present-day situation, the goal was to acquire data that accurately presented whether the SA experience had an impact on their personal and professional lives and, if so, what their perceptions of that impact were. Raw data were seen by the researcher only and all data to be used in published articles are confidential; pseudonyms were used. Participants have had the opportunity to review their transcribed interviews and corresponding report for clarification and agreement. The data were secured with participant names disassociated with the data and only I, the researcher, have the names in a secure, separate file location. There was no cost to the participants.

Data Analysis

The interviews were transcribed by myself and then be analyzed for themes across all participants utilizing common analytical steps as outlined by Smith, Flowers, and

Larkin (2009). These steps include: 1) “reading and re-reading” (p. 82) to become completely immersed in the data. At this stage, “bracketing” preliminary observations can help clear the researcher’s thoughts and allow the data to be the focus (p. 82); 2) “initial noting” (p. 83) using descriptive, linguistic, and conceptual lenses line by line to analyze the interesting comments made and the words used by the participant enables the researcher to become more familiar with the data and the way the participant describes the experience (p. 83); 3) “developing emergent themes” (p. 91) from the notes taken, the researcher maps the “interrelationships, connections, and patterns” (p. 91) as the analysis synthesizes the data in forming the researcher’s interpretation (p. 92) while maintaining the richness of the original content; 4) “searching for connections across emergent themes” (p. 92) involves taking common themes across the participants’ stories and structuring an outline that relates back to the research question. Strategies can include: 1) abstraction – “identifying patterns between emergent themes... [to create] ‘super-ordinate’ theme” (p. 96); 2) subsumption – where an emergent theme is identified as a super-ordinate one (p. 97); 3) polarization – focusing on the differences instead of similarities of themes; 4) contextualization – organizing themes as “temporal moment” (p. 98) in context; 5) numeration – the frequency of an occurrence of a theme (p. 98); 6) function – positive or negative impact of terms used (pp. 98). Using different filters can enrich the analysis further (p. 99); e.g. 7) “moving to the next case” (p. 100) as each participant’s interview should be analyzed in a similar manner while bracketing by the researcher of any preliminary discoveries found in the prior data (p. 100); and 8) “looking for patterns across cases” (p. 101) organizes the themes of all the individual cases into a master set where themes may overlap or create new connections between cases.

The reliability of research in the constructivist paradigm, i.e. the “production of reconstructed understandings” (Denzin & Lincoln, 1994, p. 100), identifies positivism’s terms of internal validity as trustworthiness and external validity as authenticity. Techniques to promote credibility included prolonged engagement with participants, peer debriefing, and member checks (Lincoln & Guba, 1986, pp. 18-19). Participants were emailed the transcriptions of their interviews for their review and comment, as well as, a member check after completion of the data analysis. Each participant received the portion of the analysis where their data was used to explain the identified themes found in the research with the request to review the interpretations made for their agreement, addition, and/or clarification. All comments and changes were then incorporated into the final analysis (p. 20). For transferability, the use of thick descriptive data may allow readers of the research to use comparisons between the contexts of the research and their own situations. Whereas, dependability refers to the findings being consistent and verified by the research committee. The confirmability of the process is established by the data to support the findings (p. 19).

Significance of the Study

This study contributes to the research on the development of professional architectural identity and creativity as it relates to the impact study abroad programs have on participants, their professional careers, and the architectural community of practice. The reflections and word choice of the participants sharing their stories contribute to a greater understanding of the participants’ perceptions of the dialogue between SA, creativity, architectural education, and practice in enhancing the global professional environment in a profession dependent on the creative training that multicultural exposure amplifies (Maddux, Adam, & Galinsky, 2010).

Positionality

My interest in the education and profession of architecture is tied to my background of twenty plus years in the architectural and design/build professions, earning my professional degree, a Master of Architecture from Texas A&M in 2007, becoming a registered Architect in 2009, and, now, ten years as an educator in architectural design and construction documents in the Construction Science and Management program in the Engineering Technology department at Texas State University.

The impact of my own SA experience at the Accademia di architettura di Università della Svizzera italiana during the Fall 2006 and 2009 semesters has greatly impacted my life and professional decisions. During my SA experiences, I studied alongside Master-level ERASMUS students from across Europe, Australia, and Japan, as well as, the dominant Italian student body. The multi-cultural nature of the student and teaching communities enriched my cultural and professional experience. As it was at my home university, studio was the major focus of our studies with the other courses offering support and reference. My SA experience enhanced my creative abilities, global competence, and cultural and professional identity. I completed my masters with many questions on the nature of architectural education. It was this and the exposure to different students and architectural pedagogies that led to my pursuit of a Ph.D. in Education with a focus on professional architectural education and SA.

The Accademia di architettura is located in Mendrisio, Switzerland. Founded in 1996 by architects Mario Botta and Aurelio Galfetti to address concerns they had about the profession of architecture, the student population has risen gradually to approximately 700 students. This number is kept low to insure quality time with the world-class professors that share their time between their professional practices in their home

countries and the Accademia. Studio projects at the upper levels involve selection of a professor's atelier (studio) and its project for the semester. Required site visits to the project allow for further exploration of many other European countries and opportunity for the students to experience the actual cultural and aesthetic context of the studio project they will return to work on during the semester.

I consider the SA experience to have challenged my pre-conceived notions of creative, cultural, personal, political, and professional identity. Having worked in the architectural and design-build profession for many years, thus being an older student, and experiencing architectural education very briefly, I was impacted by the different perspectives and processes on architecture by my SA peers. Their youthful pursuit of professional identity mirrored the intensity of my own, but lacked the insecurities about the profession that American culture exhibits in writing and the constant need to protect the architectural profession from the fracturing of historical architectural domains of design, building, urban planning, and interior design. The encroachment of other professions vying for architectural jobs, i.e. engineers, contractors, and interior designers, and the technological advancements promoting the need for faster project time lines and multi-disciplinary teams has seen a shift in the identity of the profession. My SA experience further made me aware of the different pedagogical approaches of architectural programs thus sparking my interest and need to investigate the professional education of architects to see whether the pedagogical approach between the United States and Europe contributed to this different professional identity. Having been exposed to the belief in this solid professional identity, however, I do not question the viability of the profession as do many of my American colleagues.

Impacting me greatly was the creative energy I experienced during my SA. This intense ability is one I reflect back upon and feel able to reproduce in any area of my life. It is these above questions and my creative confidence that brought me to pursue the PhD in Education with the focus on professional education even with my limited academic writing experience. I have no doubts of my success in this academic endeavor nor of my professional identity of an architect and educator. I attribute my SA experience to much of this confidence and fearlessness and hope to find others do as well.

It is the above attitudes and feelings that I, as the researcher, have had to bracket as I interviewed and analyzed my research. My experience in all of the components of the CoP, i.e. professional, academic, and personal, as well as, my study abroad experiences required me to reflect and identify my own experiences so that I was able remove my personal interpretations while analyzing the data. My intent is to present the stories of my participants as they relate to each other.

Limitations

Online and telephone interviews may limit the personal connection that evolves in a face-to-face interview; therefore, the effort was exerted to establish this connection in an attempt to create a safe, trustworthy environment, selected by the participants, for the sharing of these personal experiences as the time lapse between the SA experience and the interview required a reflective ability of the participant to relive and identify situations that have perpetuated the experience through their ongoing lives and have had implications on their professional practice.. The settings ranged from their office desk or conference room to restaurants they preferred to one participant's living room. In the effort to create the personal connection with the participants, I shared my appreciation for

their taking the time to share their insights for this research and that they were welcome to stop the interview at any point.

As this is a qualitative study, the intent is to identify “how social experience is created and given meaning” (Denzin, N. K. & Lincoln, Y. S., 1994, p. 4) for the participants of the study. Due to the personal nature of qualitative research, the conclusions cannot be generalized out to the population. Instead, the findings shed light on the lived experience of SA and the resulting impact, if any, that it has had on the participants and their professional careers.

III. FINDINGS

Data Overview

The participants' interviews were approximately one-hour long. Ranging in different years of practice, their architectural education programs had varying requirements or recommendations of a study abroad (SA) experience. Data were collected through online software such as Skype and Go To Meeting, phone, and face-to-face interviews, recorded, and transcribed. The transcriptions were sent to participants for their review for accuracy and comment on any additional information they chose to offer. After the data analysis, portions of the participant's contributions used in the analysis was sent to the participants for agreement/clarification. Modifications made were received and incorporated into the final analysis.

The Academic Study Abroad Experience

Reflecting on their SA experiences from their academic education years ago, participants shared their thoughts on the impact that experience had on their academic careers. One hundred percent of the research participants recommended SA experiences for current architectural students. Capturing this sentiment, Jeff stated,

I think absolutely that students need to take advantage of that. I think it is something that really is mandatory and should be part of architectural education.

I think it would be very difficult to understand the role of architecture and the role of the profession in today's world without other broad-based exposure to it.

The common themes surfacing from their stories take on the discipline-specific focus of their motivations, cultural awareness, personal impact, studio and other classes.

Motivations to Study Abroad. As all architectural schools highly recommend, if not require, all undergraduates complete a SA semester, there exist many different locations and types of programs from which students may choose. The participants of this study shared their own different motivations for participating. Their home universities offered various opportunities of durations and locations, flexible arrangements, and transferable academic credits. Casey opted for the immersive experience offered in Switzerland over the structured course with assigned teacher, and stressed the unique opportunity to work with famous practicing architects as her reasons for selecting her program. Estelle, on the other hand, discussed how she, as the student, had to take the initiative of adjusting her academic schedule to work the SA semester into her required coursework. This personal initiative to participate in a SA was required for a few other participants as well. Robert heard about his SA opportunity from another student and decided, for the cost and experience, why not go. With little expectations and being a sophomore in the architectural program, he was struck by seeing buildings “that... [were] totally foreign to me” and it “really helped me fall in love with [architecture]. It just consolidated all my hopes about [my career choice]... Design and building things is just so satisfying”. He has been practicing for over 36 years and still loves what he does and credits the SA experience for his “staying with it and not giving up,” while 80% of his class dropped out. Miguel was curious about what “living in a smaller community” with its different culture would be like and emphasized taking this opportunity now before responsibilities he would have in the future made it impractical. For Estelle, she credits her “passion and a drive to be outside of my home origin” as her catalyst followed closely by her desire to go on this “pilgrimage. You should go see all these places that you’re hearing about in school”; a theme many participants echoed.

Improving language skills was also noted by many as a factor in their selection of the SA programs to attend. Butch stated that “it definitely improved my communication skills”. Whether going with a like-speaking group of students escorted by a teacher or being fully immersed in a new culture and language, the participants expressed that having the opportunity to dialogue with locals enriched their experience. “You lived there and you interacted with people that you didn’t know, and you had to be able to get around and be on your own” (Casey).

In considering how students can best prepare themselves for the professional world of architecture, Clarence voiced that an increased worldview correlates to the quality of architect they would become and stressed that SA was the primer to the lifelong journey required of the architectural profession. He continued,

Anytime I've ever read a biography about a famous architect, it always involves them being out and seeing the world. We don't do things in isolation or at least I don't think good architects do things in isolation. The great ones are always playing off of what they've seen in the world. And so, I really think that study abroad is kind of the first step in being a good architect. I think even once you're a professional you have to continue the process of getting out there in the world and seeing things.

In Jeff and Reese’s opinions, they felt that SA opened up their awareness of the world beyond Texas, specifically.

You can live your whole life there and never leave the city... It can very easily be your life making you isolated from the rest of the world, other cultures, and other people and other ways of thinking about the world environment... [Studying

abroad offers] a broader set of experiences and, ultimately, it prepares you for some of the issues of architecture that we're dealing with now. (Jeff)

Coupled with this underlying concept of life-long learning, many also stated that once you have participated in a SA, you are more apt to continue your exposure to other cultures and circumstances through travel and/or international work. Both Clarence and his wife had completed a SA program which contributes to their confidence and desire to travel more. "We're much more willing to go somewhere off the beaten path now after having that experience and so, if anything, it sort of like initiated a thirst for travel personally". All of the participants agreed that they enjoy continual travel opportunities and echoed the need for practicing professionals to continue their journeys and exploration of different experiences.

Bill explains here why travel is so important to architecture,

Our profession is ever changing and we are always having to constantly adapt to new practices, new procedures, new people, new ways of doing things, new ways of building. And traveling or studying abroad is just another way to practice learning all those skills. And our profession is also becoming more of a global practice. We're doing projects all over the place [so] simply just getting used to traveling is very beneficial.

The self-efficacy and self-confidence gained in SA encourages further exploits, while the cultural awareness obtained contributes critical thinking skills to the societal responsibilities of architecture. Reese expressed this by stating, "It's an experience that all students need to have... [as our societies need] a different type of worldview [where] we're not just doing our own thing [or] don't care about the rest of the world". During their reflections, participants discussed the awareness of differences in cultures,

communication, skills, and scale of the urban environment they experienced. It is these things, “minute differences that... you pick up. That kind of shape you as a professional, as a person changes the way we think and the way we approach things” (Butch). Along this line of thought Jeff added he was exposed to,

the different attitudes in Europe towards building, the value of building, the valuable sort of cultural, social, and economical [attitudes] involved in architecture. Seeing buildings built in the quality that we have here and seeing buildings built over a hundred years ago... still being used every day. All of those things can't help but influence as a designer and in particular... a SA program in an academic environment, with people in a very infant stage in their career when they're hopefully open to a lot of ideas in the academic environment.

Further, exposure to other cultures, their architecture, and scale of their built environment challenges the preconceived ideas of the student and future professional. Comparing the scale and proximity of the urbanity of European cities versus U.S. cities, Jeff reflected that in Europe, even with the close proximity to other large cities, the cities

have vast differences in cultures. In contrast to the homogenous identity of many cities in the U.S. and the fact that, particularly in Texas, you drive 10 hours and you're in a city that's just like the one you're from, Europeans are frequently only a few hours train ride from a different culture or different country.

Jeff stressed that U.S. students need the exposure to these different urban scales that they are unfamiliar with in the majority of our modern U.S. cities in order to understand the awareness of alternative designs and the ramifications of their design solutions. Clarence discussed this concept also, “When you're standing in Florence, you realize that architecture completely shaped the culture of the place and you know it went hand-in-

hand with artistic movements... It was critical in establishing that place as such a power". Having spent time in Italy with its historic buildings and then in China with "all the new sleek, crazy, modern buildings", Bill emphasized that "buildings are an important part of [the] culture and the identity of a region... [and] we have the opportunity to take advantage of that notion and express our culture in our world". From Estelle's perspective, architecture and its responsibility to society, as a whole, requires the architect to have "the understanding that what we do impacts a broader community."

Cultural Awareness. Some participants noted their improved problem solving skills while living in another culture with their American upbringing and expectations. With the different cultural practice of closing businesses down during the afternoons or weekends, Butch noted this cultural practice as inconvenient to getting assignments printed and limited access to acquiring model making materials. With his American perspective, he never considered that stores were not always open. This imposition opened his eyes to a different cultural norm and required he sharpen his inventiveness as he stated, "You had to figure another way to express your design, express your project... whatever your presentation was". These lessons he credits for his creative problem-solving skills and cultural awareness that he uses in his practice today. Miguel shared his main cultural awareness as "interacting with other people and encountering their thoughts on the world versus your thoughts on the world... I tend [now] to always look at things from not only my perspective, but from someone else's perspective".

Learning the cultural norms can also be humbling and revealing as Butch shares another story about being at a high-end restaurant with his professor and other guests and having the wait staff bring course-after-course to the table. His professor, understanding the importance of students gaining cultural awareness, finally "leaned over to... [him]

and said, ‘Until you tell them that you’re full, they will keep bringing out food’’. As with Butch, many participants expressed appreciation of their professors for introducing situations, social interactions with peers, academics, and professionals that enriched their experiences with new culturally relevant perspectives.

Being able to make connections between our expectations versus actual events assists the person and future architect in the realization that awareness of cultures beyond our comfort zone are imperative. Reese’s perspective was much more intimate as she had stayed with a family in France and learned about what “normal people do on a daily basis and what is school-life for young children... You just really learn about what their regular lives are like”. After the experience, Reese felt more apt to challenge stereotypical roles acknowledging that “until you actually go there and see how they do stuff, you don’t really know”. This familiarity allowed her to see the differences and draw comparisons between cultures.

The unique opportunities that are presented during a SA can also include not only touring, but actually being housed in architectural icons as Jeff experienced. His group stayed in Les Tourrette Monastery in France and had dinner and dialogue with the monks in residence. The monks shared their cultural diversity with the students and this impacted Jeff as he recalled, “that [they] actually taught architectural history at the local university...”. He and the other students were able to have discussions while dining with them, adding, that “there were [unique] opportunities you had for being in some of those places”.

Participants shared also that the different types of SA programs had an impact on their experiences and reflections. While many had close connections to their hosts or peers, Jeff shared that the transient SA program he was in left no time for cultural

interaction between the community or professionals brought in to instruct the group. As his class had no home base, they traveled around many countries and thus left him feeling like a tourist. Likewise, Bill also noted the lack of community involvement and relationship building he experienced in Italy by being “seen as American students traveling in a group with a professor”. In comparison, when he was in China, he lived in and interacted with the community more and was sought out for being a westerner as they were unique to the area.

Crediting SA, Reese spoke about obtaining a greater worldview through experiencing different cities, urbanization, and different design and construction processes. Echoing this, Estelle stated that SA helped her to understand that “architecture was not about an individual building, but about [a] collection of buildings... things that work together... It’s all those other places that you go through and experience in the process that I think is just as impacting as the monuments are”. It was this density of the urban fabric of Europe that compelled Reese to compare the U.S. concepts of sustainability and sizes of projects to those she had experienced abroad in Greece.

The cultural differences experienced enabled participants to question their own culture as they compared it to the new environment where they were. While reflecting, memories and emotions were often triggered resulting in the participants becoming more animated and their recollection of stories more vivid. As an example, Robert described visiting a site during his SA and his ability to recall some “45-50 years ago... the sound and the scale... the water cascading down... it was just magical”. Even participants that were more reserved experienced moments of clarity as they recalled events.

Personal Impact. When Miguel was presented with the internal struggle to go or not on a SA semester, he asked himself simply “‘would you regret going or... not going?’

And I thought it was much more likely I would regret not going... Since then, very rarely in life have I found that you regret doing something that is kind of a rare opportunity.”

Thus, he is a strong advocate of SA and stresses that it had a big impact on him. “I think that it’s just something you need to do to experience other people and cultures [to realize] that they may not necessarily think the same as you... I think to be able to see other people’s perspectives is valuable”. Clarence credits SA as,

it engaged me with many different types of people and places and just introduced me to things that I had never even imagined before... I think I learned way more just visiting all these places... [than] I could have ever learned in an intense studio environment. So, I think it really just shifted my perception of how the world works and even how people viewed America and... I think it changed my perception of the world completely.

Bill and Casey both expressed that the SA opportunity helped during anxious periods in their lives and enabled them to reset themselves and their beliefs. Bill relayed that he was active and challenged physically in school, but had “never really challenged myself mentally out of the comfort zone” until SA. He stated that he “learned to travel well and adapt to certain situations... [and added] I feel that I am a better person after going abroad two times just to... again, be... outside the comfort zone”. He was proud to share that being able to endure an extended stay in an unfamiliar environment with other students from the U.S. he was not fond of challenged him to acquire survival and adapting skills. Casey, as well, from a more personal and temporal perspective reflected that,

I think it adds focus... a large amount of focus, because you’re not distracted... by bills or by rent or by wanting to do things with different friends all the time...

[because] all of that is kind of temporarily gone... You're not distracted by your family,... [because] they're not there. There's a lot of responsibilities... or through obligations, you feel when you're home that you don't feel when you're abroad. Though really, it's a very selfish time. Which is nice... And I think... the other thing that it does, is that it makes that time more precious... it's temporary, so you value it a whole lot more. And I think you're more picky about the things you do and the experiences you have and what you choose to take advantage of.

Estelle's reflections came flooding back through her senses, from having to comfort the landlord of her England flat after the death of his wife, to how cold it was and having to rent a heater, to her association with classmates as they acted like tour guides sharing their country/city with her. These interactions and reflections led her to share the personal cultural awareness she experienced in the dating scene in the UK versus that of the U.S. She "realiz[ed] that there are different social morals" as she had gone out with someone and then learned that from that one date that they were considered a couple. Surprisingly to her, to be seen going out with someone else reflected very negatively on her reputation.

Once you become aware that they... perceive of things differently, [this] may make you more sensitive when you meet someone from a different place here... I think it makes you, I guess, assume that when you meet someone from [a] different culture, you don't necessarily know everything about what they think.

(Estelle)

Estelle considers going on a SA "a huge part of growing up and becoming... feeling like an independent and self-reliant person". Butch bluntly stated that, "It literally... changed my life... seriously. This is not a line. This is the complete truth". It was the experience

in SA that also made Butch realize how much he loved to learn, so he slowed down the pace of taking classes to enjoy the process and actually continued his studies by pursuing a Master's degree.

Many participants stressed the importance of friendship, both before and after SA, had on their experiences. Miguel shared that his absence allowed him to see who his real friends back home were.

When you're gone for a semester in college, you learn who your friends are and who your real friends are. Some of them aren't, you know. When you're gone as well that's a valuable, personal life experience and that you are far away from you're comfortable day-to-day existence.

With those that stayed longer, their living situations offered them further connections. Casey had fond memories of the apartment where she stayed, referring to it as an

oasis... like a microcosm of the United Nations. We're all kind of there living together, eating together. Those buildings were designed so we can yell at each other across... the courtyard... You just create your own family... You create your own community... Everybody there is also constrained to the same short amount of time, so people become close quickly... People find friendships very, very easily. Yeah, me personally? It had a very big effect. It was definitely what I needed at that point in my life and even in my education.

Many participants shared that before and after their SA program, they traveled on their own around Europe with friends that they had prior to or made on SA. The relationships of their personal and cultural growth abroad continues through today with the help of social media. Casey shared that she found out on Facebook that one of the local

community bars she had frequented some ten years ago had closed. “There were a couple of different people on Facebook and someone posted La Veneta closed and everyone is like NOOOOOO”! This pervasive media enables the connections and shared experiences to continue long after SA ends. Keeping in touch also provides the opportunity for future adventures and collaborations.

Studio in Study Abroad. As architectural studio is the crux of the architectural educational experience, participants that took a SA studio stressed the differences they experienced. Where Clarence shared that the studio he took was easier because there was more traveling done, Casey reflected that although it was comparative to her home university’s studio, “it was very rigorous... and a lot more hands-on”. Miguel’s experience was more “thought-challenging [from] a kind of thought-and-theory perspective, but in terms of the rigor of day-to-day studio life that we’re all used to in architecture school, it was not as demanding from a time perspective and workload perspective”. Estelle noted the complete lack of support and structure of her SA studio. “You basically showed up at the beginning of the semester and you received the project assignment and you never saw your professor again until the end unless you sought him out for info.” This example of different pedagogy she experienced between her home and visiting this academic setting made her aware of the different architectural education systems. Understanding SA’s intangible impact on students, her home school highly encouraged “experiencing the place... going out and seeing things and doing things” instead of worrying about academic grades as there existed an agreement to adjust grades upon the student’s return home. This insight carried over for Estelle some 25 years after her SA experience in her analysis of the SA program at a local university,

They treat it too much like schoolwork and I think a lot of those things... It's not classroom stuff. It's learning. The things about traveling through Europe on your own... All those things... that's... [what] I remember. That's the... [experiences] that I think really influenced me and impacted me... being out, sitting on a park bench in a plaza and sketching. Those are the things that I remember... not sitting in a studio working on a project... They treat what they're doing now too much like school here, you just happen to be in a different location. And I think that's defeating the point, personally.

Reflecting on his transition to professional practice, Jeff shared his perspective that different architectural programs pursued different focuses in architectural education. You have the conventional working world where you work in an office and produce construction documents and the theoretical abstract based world where you design, ponder, and critique architecture. "I think there's room in the academic world for all of that. Different firms, different practices look for different things for people that they hire. So I was very pleased with my education". Casey shared the different studio expectations of students coming from different architectural programs. Where she had been accustomed to long hours and model making at her home university, she struggled with a studio teammate abroad that came from a "100% theory" based program. "She had a zero understanding of that... in times of stress, you don't really have time to... teach someone how to walk" or rather to produce the needed project requirements. This has impacted Casey and how she works now with others as she recognizes other's options to prioritize things differently. The U.S. multi-disciplinary SA programs offer the students of different disciplines the opportunity to SA together, having a different focus or skillset, thus creating an enriching environment for the students to learn from each

other. In this type of program, Butch noted “at the same time... [the landscape architects] were concerned about some of the things we were concerned about... It was broadening”.

The ability to compare the different pedagogical styles provides the students the opportunity to see how these differences can be extrapolated into different design processes and awareness of others’ different skill sets. This provides them alternative perspectives to draw upon in their practice. Butch shared that “We describe things like if you have been to the same town, the same city across the world as someone else, you can mentally navigate through... space with them”. The experience of shared reflections across time and programs “helps with the communication of how things are going or how things are perceived when you are talking about the architecture and talking about your design”.

These additions to an already challenging studio environment exposed the participants to varying levels of skillsets, pedagogy, ambiguity, and connections to others through cultural exchange, adjustment, and survival of the situation. The confidence and self-efficacy expressed through their stories reflect the importance of early exposure to the SA climate that infuses these vital characteristics of a person and professional. The participants’ ability to identify the situations that promoted this growth so many years afterwards affirms SA’s impact on their professional identity.

Relationship with Instructor. Bringing the standard American apprentice-style studio expectation with them from their home universities, participants experienced many different studio instructor relationships. While abroad, Butch felt intimidated and disliked by his American instructor that came along with the SA program. In hindsight, and after getting to know that professor and becoming his teaching assistant, he identified

the treatment he received as being the studio-teaching style of the professor. Whereas, Estelle, as mentioned earlier, had a studio space where the students worked together, but had to seek out the instructor's input. Casey's situation introduced a hierarchy she was unfamiliar with as teaching assistants handled the day-to-day of the studio, while the professor only appeared at special times for reviews often with much celebrity-status fanfare. As she had chosen to take this studio with this famous architect, who went on to receive the Pritzker Prize in architecture (akin to a Nobel Prize) shortly after, she accepted the cultural distance of professor/student direct contact. The focus that her professor stressed and published about during her SA time permeated her mindset and still echoes in her reflections, design process, and her work to this day. "It wasn't just studying architecture... it was very much about the feeling of the space". Butch's realization that the instructor's attitude was not meant to be taken personal and Estelle's and Casey's feeling of disconnect with the instructor emphasizes the vulnerable position and trusting relationship students in a studio form with their instructors.

Robert did his SA early in his college education and experienced an important cultural awareness while there. In describing his professor and the people he met on his SA, he stated "made me realize that there are smart people everywhere. You kind of seem to think that we're Anglos. We know more. I met some pretty smart people in Mexico". This epiphany enabled him to identify his American-centric perspective allowing the opportunity to reflect on his own bias and open up the possibility for cultural growth.

Being the mentor in the apprenticeship structure, the professor asserts his own beliefs and past training on his students. Identifying their own role in the studio, the participants experienced awareness of their beliefs and the personal power dynamic of

working relationships. Between their home university's program and exposure in SA, the variety of teaching styles strengthened the participants' agility of adapting to different working environments.

Other Classes. In architectural studies, other classes are seen to support the content that needs to be mastered in the studio. Many of the participants did take other classes while abroad, but their recollection of these classes did not appear as crisp as did studio in their reflections. Casey shared that “what I liked about that program... the classes... felt a little more interrelated or maybe I was encouraged to make more connections” between the support classes and studio.

As architecture impacts so many of the senses, it was not surprising that all the participants were impacted by being in the actual spaces and seeing firsthand the art and buildings. Miguel stated that “I’m not an educator, but I would think that from things sticking in people’s brains that that’s probably a better way of consuming knowledge and keeping that knowledge and appreciating it more”. Or as Clarence stated, it “felt like a living history class. It was immersive”. Bill noted that it was his fascination of

the Roman empire and the power and architecture that they had. And just studying all the Renaissance architecture in my history classes, I felt like I just needed to go see all this first [firsthand] to truly understand what was going on over there.

Linking this immersive experience with life-long learning, Robert’s reflection compared the history classes he loved while in school so many years ago, with his recent trip to Greece as he exclaimed, “It’s kind of like... God, it’s better than I ever thought it would be. It was much better than the pictures in the book”.

Language courses were the norm among participants in foreign speaking countries. Bill noted, “We did take some language course just so we could try to survive and eliminate as much of the barrier as we could”. Casey reflected that the short language class and immersion into the community helped her to improve her language skills, which led to more cultural exchanges with locals. She further shared that those students that went over and stayed in a group, i.e. American students with an American instructor, did not “come back speaking in another language... [or had] a cultural experience”. Having relationships with people in the community, the student is forced to learn the language... If you came out of that experience without speaking... a phrase in Italian, then you really missed out... The community interaction affected me most in my grasp of the language which, I think, helped me appreciate the country a lot more. (Casey)

The size of the city or town has a bearing on the language acquisition as well, as Miguel reflected

When you do go travel Europe on your own, you tend to hit larger cities and [meet] people that are used to tourists... [Studying in a small town] is kind of a different experience. They were all very nice; kind of a small town people that weren't jaded... [towards students] who couldn't speak very good Italian. So... it was a good experience overall, but we ran into nothing but nice people.

Bill reflected on his experience in working with colleagues from several different countries and being impressed by the number of languages they all spoke, “then we [Americans] come along and all we know is English. That’s definitely been an issue for a lot of people” as they, his colleagues, were required to converse with the Americans in English and not their own mother tongue, possibly placing

them at a disadvantage. Bill's awareness of this situation acknowledges the American-centric impact of only speaking one language and expecting others to learn it to communicate with Americans even in a foreign country.

The other courses taken added value to the SA experience by encouraging the multi-discipline nature of the architectural profession. The opportunities to witness firsthand the impact of architecture on space, people, and geographic location appeared from the participants' stories to remain in their reflections as examples of possible design solutions that they could revisit in their own memories and use on new projects. This exposure further enabled them to challenge their own culturally-embedded design responses, expand them with those they had witnessed while on SA, and open up their minds to the possibility of an unknown direction.

Summary on the Academic Study Abroad Experience. As the insights shared by the participants were reflections of their SA experiences they had had years before, their selected memories of their academic experience included discussion on the types of programs they had participated in that prompted the eye-opening cultural exploration and experiential opportunities which prompted their self-growth and foundation of lifelong learning. The cultural exploration they witnessed took them out of their comfort zones as they investigated the depths of architecture, their independence from familiar surroundings, and their own self-awareness. As academia lays the groundwork for professional transition, the SA experience is an important catalyst for a more culturally aware, confident, problem-solving, flexible professional. For architects specifically, an expanded worldview and alternative instructional methodologies provide an important foundation of the architectural profession in its role in representing society's built-environments around the world.

Development of Professional Architectural Identity

The accumulation of SA experiences listed thus far contributed to the characteristics that the participants mentioned when asked to describe what professional architectural identity is, and how they formed their own. From prior knowledge of what an architect's assigned attributes are compared to their existing roles in a firm, their comments spanned the varying years practicing and captured their matured perspectives. Their reflections further connected their SA and working experiences to their own professional identity. With varying levels of SA influence, the following themes arose in the participants' responses: how identity is formed, creativity's importance to professional identity, the architect as problem solver, place maker, and manager of people.

How Identity Is Formed. From being idealized from pop culture shows and having role models, most participants agreed that becoming an architect is an ongoing, lifelong process or, as identified by Estelle, "a developmental process" associated with the scale of the firm where they worked. Beginning this process with formal education, Casey reflected back on an assignment from her first year in school that made her aware that she was seeing the world differently, more analytically, "bringing the intangible to tangible". From these basic building blocks, the academic component of the CoP encourages the acquisition of the student's architectural language and creative design and presentation skills through the constructive, gradational curriculum. The transition into the professional CoP connects this academic foundation to the actual practice of architecture through the lens of the office the student joins. As professional skills are acquired, the student, now a professional, progresses up the ladder of responsibility inherent in the professional environment. Reese and Casey both shared that their

professional identity became more clearly defined through their professional responsibilities in communicating with the owner and contractor on projects they were assigned. Mastering communication and other skills that SA has been shown to amplify enhances the important leadership component of the identity the architect assumes in leading and collaborating with other stakeholders. As emphasized by Jeff, communication is required to reach the “goals of your clients... to have a positive effect on the client, the community and the world at large,” while Robert concurred and added that good communication and self-confidence is vital in establishing and maintaining good relationships with everyone you work with.

Architectural education programs have the ability to prepare a student for differing levels of scale “from the macro urban planning phase down to the design of actual products, of furniture, of doorknobs, and anywhere in between” (Jeff). As the level of scale is relative to the firm and the type of work it produces, it is at the firm’s scale that the student enters the profession and associates to her/his professional identity. While many of the participants worked at larger firms, some known internationally, they tended to specialize in larger project types, whereas Estelle shared that she works in a small office where the focus is on “relationships we build with clients... [and] with the community”. Robert’s 36-year perception echoed Estelle’s as he stressed the gradual replacement of small firms with larger corporate enterprises. Only working in smaller firms and then for himself, he added,

Architects generally used to be small firms... Now it’s become more... corporate. In the little towns all around, they have all these satellite offices which are manned with architects that meet and win projects, but ship the project off to larger corporate offices. Lost is the community connection. [With this shift in

practice, however, he added that there will remain small firms and that] architects will still be able to hack out a living, but the big stuff will be done at a corporate level.

Two participants at different ends of the experience spectrum, Bill, with two years in architecture, and Robert, with 36 years straddling both architecture and construction, shared their responses on how they formed their professional identity. Being early in his career, Bill acknowledges that he knew he would be making construction documents, but only recently realized the role the architect plays on the construction site. “I never envisioned myself working in the field like I did last year. I didn’t know that continuous onsite presence on a project site was a possibility for architects... in today’s practice... Full-time site presence used to be the norm, long ago when the architect was a ‘master builder’”. Bill’s epiphany in his early developmental phase can be compared to Robert’s admonition that the animosity between architects and builders derives from architects assuming they understand the complexity of the construction details without having spent time on a construction jobsite. “Architects need to spend time on projects and learn by looking and learn by talking with subcontractors and contractors about their side of the world”. Architects draw the plans that contractors use to build with and oversee the construction, but they themselves may have very limited construction experience and knowledge which is represented by the lack of detailing in the drawings that the contractor must then resolve to construct the project (Robert). Approaching the architect and contractor relationship as a “team” and not hierarchical, the architect can promote better communications, learning, and a more successful project further delineating professional identity. Exposure to different office environments and architectural pedagogy in SA that emphasizes the macro/micro scale of the architect’s role in society

and construction, as well as, witnessing actual urban design and construction details in SA experiences and jobsite visits enables the connection be made between the dichotomy of historical and current professional architectural identity.

Creativity. As one of the major characteristics of an architect, honing creative skills is one of the main focuses of architectural education. Asked about the impact that the SA experience may have had on their creativity, many shared that having had an SA experience opened up their minds to new ideas and envisioning designing in different contexts. “It changes how you process the information” (Butch). Estelle’s reflections on SA’s impact was more on “broadening my mind” thus contributing to her design ability, whereas Bill stated that the “SA experiences, they more shaped who I am more than how I design... [as] who you are determines how you design”. He added that being exposed to different building typologies contributed to his feeling that SA expanded his design abilities. Casey reflected back to her SA studio professor’s emphasis on the “atmosphere and what you feel when you’re somewhere,” as well as, the movement through space as she designed. The architect, she feels after having studied abroad, is charged with bringing those difficult, atmospheric questions to the project. She considered the SA experience as giving her more freedom to express her designs in different ways for more clarity. “When you’re presenting something, you have a limited amount of tools... and you need to figure out how best to invoke... what you feel about your idea and what that idea should make other people feel”. The architect should thus create the right atmosphere in presentations, as well as, considering them in their design solution. Casey stated that it was her SA professor’s “attention to... [our presentations] forced us to pay attention to all of those... [atmospheric, sensual design elements] and I take that into my day-to-day at work”.

When asked if they had experienced any creative moments that inspired their practice, one said he had not, and a couple mentioned only when they were detailing. Now whether the SA led to more epiphanies, Casey appeared to enjoy the reflection by laughing, but said she felt it really just “augmented” the architectural program from her home university. She went further to clarify her “aha” moments as different in school where they were perhaps large design ideas, to in practice happening while resolving details, to happening in the field while resolving an issue that

didn’t work with an existing condition... All of that taps into your design brain...

The more you see, the more you experience, the more spaces you’re in, the greater your understanding of the world and you need all that because you bring it into your profession. (Casey)

Having more years of practice under their belts, Estelle, Jeff, and Robert all saw those creative moments as “just part of the evolution of growing as a designer” (Estelle) and didn’t associate them to SA. Clarence shared his process when faced with starting a new project,

The first thing you do is kind of comb your memories and, I think someone who has had a study abroad and has been exposed to incredible places, I think it just gives you more ammunition than somebody who has not been exposed to those situations.

Agreeing with this concept of SA expanding the “catalog” of experiences, Miguel expressed “when we are doing kind of charrette things around here, it does seem like a lot of us, including me, call back to things that we’ve seen... during the study abroad”.

Clarence stressed that having experienced different spaces has expanded his and his colleagues’ repertoire of architectural precedents to pull from for quick design ideas. As

each team member has traveled and seen many of the same places, “we can talk about different characteristics and... if you’ve been to a place, you will probably have more intense memories of the project... So, yes, I would say it probably has helped the creative process”. Correspondingly, Jeff saw the SA experience giving him a “broader understanding of what architecture is [as] part of our dialogue in every day. The totality of your experience is kind of inseparable”.

Problem Solver. Many of the participants consider the architect’s primary role as that of a problem solver. Miguel immediately stated that “I take complicated problems and try to boil them down into a few solutions from the built environment”. Bill stated that he became aware in working daily with contractors on a project that “it was all about collaboration, critical thinking, and problem solving. [Architects synthesize all of the] elements that go into a building... into a cohesive environment”. Casey expanded this further by stating that this overview is at “a level of refinement that isn’t always a focus for others members of the team”. It is this “big picture” that Reese describes as the architect’s role, while engineering consultants focus on their individual disciplines. The architect must “create the vision, get your client on board... and carry it through the project while... [managing] the consultants”. Butch correlates these skills of problem solving he encountered in his SA experience with his current role at the managerial level.

We can take... whatever we have in a problem and figure what the parts are,
figure out how those parts will go together or come apart in order to come up with
a solution of some sort to solve a problem to make for a positive design... to
improve... our environment.

Or as summarized by Miguel, an architect can,

in our brain, go from 50 options to two or three fairly quickly and then it's our responsibility to take those two or three options and communicate them either or both verbally, graphically, and through text and media... [We take] complicated built environment problems and communicate solutions to both [owner and contractor] and help them with that exact vision and then they don't see the complication behind it.

Clarence likened this problem-solving ability to that of the conductor of an orchestra and his skill in bringing an “incredibly difficult process” to fruition.

Place Maker. As architectural ancestry describes the beginning of the profession as that of a Master Builder, the complete scope of work resided in one person that designed and directed the building of architecture to encompass and enclose space effecting people, culture, and environment. Proud of this legacy, being both an architect and contractor, Robert’s perspective is that architects “look at things more carefully than just builders. We think about the long term and think about the social impact of what we’re doing... [The architecture] pull[s] the community together”. From the designer’s perspective, many associated the identity of an architect to be a place maker. Reese shared that “You’re trying to get information about a client or culture, and make a place for what they need or maybe what they don’t think that they need”. In agreement, Estelle refers to this act as “space in place”. Explaining further that

the architect is the one who helps coordinate the whole package in order to create everything that makes that place. So it’s not just designing the building it’s... more management... to get the whole team to work together so hopefully the end product is not just the building itself, but a place that has a more intangible quality to it.

From a professional perspective, Bill shared that the “best architectural personal experience I’ve ever had came when I was in Switzerland at Peter Zumthor’s Therme Baths Spa in Vals”. The experience stressed the importance of the design on his practice, the value of “space”, and his perspective of what is beautiful architecture. “I was only there not even 24 hours and it was the best 24 hours ever. It was so relaxing... light and air go perfectly there” in that space. Experiencing the actual space in SA adventures enables sensual connection to what “space-making” implies as architects design to impact all the senses and not just the practical functional experience of their creations.

Manager of People. Where others are now tasked with the academic focus of the profession, the design, the business side of the practice requires growth in communication and leadership skills and self-confidence attained through experience and enhanced through SA. With years spent at the same firm, Butch’s promotions to management prompted his description of his identity as that of a “manager of people” and solver of problems. He stated that he “felt more like an architect before I got my license” as his advancement to a more managerial position removed him from designing and relegated him to delegating the design to those he manages and trains to solve problems. With the experience gained when reaching upper management comes the specialized knowledge of architecture which allows faster problem-solving abilities; however, as Butch shared, this leaves the design problem for others less costly to the budget.

Architectural offices require strong people skills in dealings with clients, coworkers, consultants, and contractors as the architect is the team member on a project that master plans the whole project and distributes the workload to the appropriate parties. Casey compared the U.S. studio climate of being “the God in your little world... to do whatever you want” to the interpersonal relationships she had to create for her SA

team. “In Mendrisio, there’s a lot of group focus... and that was very hard... That definitely helped me now” in my current working environment. Bill echoed that sentiment stating that having to deal with many peoples during his SA stints has “shaped me into someone that works well with others”.

Summary on the Development of Professional Architectural Identity. By identifying the characteristics the participants considered part of their professional architectural identity, this research can further delve into the impact SA has on those characteristics. As creativity is a foundational characteristic of an architect, the exposure and awareness experienced in SA of other viewpoints, cultures, architectural precedents, and various processes promote a deeper understanding of design variables and strengthen this vital component of professional identity. In their reflections, many participants identified the role of an architect to be a problem-solver and place-maker. The problem solving characteristics that were mentioned include collaborating with others, the ability to see the big picture with the varying scale of the drawings, as well as, the coordination of the project from design to construction, obtaining self-confidence and self-efficacy that contribute to required leadership roles, and the ability to make decisions in times of stress. By exposure to different studio, environments, and classmates/colleagues, the SA offered the opportunity to identify and practice collaborating with others in different settings - an important skill in assuming the leadership role of typical project organizational dynamics. The changing scale of urban settings, buildings, and construction drawings present the architect with the challenge of varying levels of focus. SA enables different perspectives of scale from cities, countries, building styles, detailing, and personal observation to enhance the student’s repertoire. The architect as place maker is enhanced in SA with actually witnessing works of architecture that are

part of the living legacy of past architects thus reaffirming the continuing tradition of architects serving the needs of civilization as designers and builders at various scales impacting the safety, welfare, and sensuous characteristics associated with designing for humanity.

As students move into the professional world, their opportunities of working at firms with varying types and scales of projects enables them to select their area of interest. This selection of the firm to work at can be enhanced yet further by their SA experiences as they have a better understanding and exposure to a larger worldview than their classmates that did not venture out of the norm. So, too, resumés showing SA experience are looked at favorably by companies understanding the capacity of the person unafraid to SA, e.g. adventurous, flexible, self-confident, cultural awareness, etc. Bill identified SA as a resume enhancer by sharing that when SA shows up on your resumé, “it sends a message to people who review your information that you are ok getting out of your comfort zone. You have a wide array of experiences”. As a business, architectural firms compete for strong and fearless leaders that will enhance their profile, share talents, exude confidence with clients and consultants, as well as, strengthen office culture. With maturity comes the ability to resolve problems and design quickly, but the cost of management partaking is cost-prohibitive thus supporting the apprenticeship-style training seen in most offices. As the architectural profession is a lifelong-learning pursuit, SA also instills the travel bug and thirst for adventure.

Study Abroad’s Impact on Professional Practice

All participants shared the belief that SA adds an intrinsic value to professional practice as SA impacts individuals as students and future professionals thus permeating the profession. Enhancing an architect’s worldview has ramifications for all future

projects, collaborations, and work environments, as well as, “desirable elements... in the building and development of communities” (Miguel). Further, the examples of a variety of design and presentation skills honed during exposure to the diverse SA skills of classmates and professionals are brought into the architect’s own practice - a practice that varies across a spectrum of the professional’s interests.

Changes in Practice. Where traditionally, the architect’s role has been to oversee the project from design inception to construction completion, the responsibilities on projects now are murky. As the changes in practice impact the profession, it is imperative that all architects be able to adjust to the status in which they find themselves working. As SA contributes to the more adjustable nature of the person, this ability is an asset in the transition the profession finds itself. Butch has witnessed these changes he has seen in the architect’s scope of work. In the past, everything was done by the architect, but this has gradually changed due to legislation, design and construction methodology, e.g. Building Information Modeling (BIM), technological advances, and the increase in specializations. The impact of technology and the resulting change of methodology has contributed to this situation and is a vital element to understand. In describing the technology used in their practices, the participants’ reflections went from leading the charge in BIM, to one that only used 2D CAD to yet another that still produces drawings by manual drafting. With these varying levels in practices today, the use of advanced software to produce construction documents from 2D to 3D (BIM) varies from office-to-office and, even in the same office, project-to-project with one participant stating “we’re using ArchiCAD... [and] haven’t worked with any contractors using that. They still want CAD files and pdfs” (Estelle) to “I think everyone now really is on board with BIM” (Reese). The variation in responses is just the tip of the

differences prevalent in the industry today. This shift has further taken the design process from the architect as an island to the team approach (BIM) which brings the owner, consultants, and contractor into the former design realm of the architect without the others receiving any design training. In an attempt to get ahead of these changes to the profession and be more marketable, some architectural firms have taken the lead to resolve the impact of the changes to their practice. “I guess we’re at the forefront of a paradigm shift... It depends on the size of the firm and project type and what the expectations of the owner is” (Butch). Claiming the lack of awareness and support from the national organization, the AIA, Robert put it simply, “Architects stepped back so builders and engineers stepped into place.” Other professionals, such as engineers and contractors, have increased their role in design, production of construction documents, and taken over projects that were in the past considered architectural jobs. “We’ve broken it up so much that it’s kind of dicey as far as what I can do and what I’m supposed to do” (Butch). In her understanding of these roles, Casey explained the differences in training and expectations from an architect’s perspective as,

our brains are wired to know a little about everything. We’re not specialists.

We’re not meant to be. Engineers are wired to be experts about one thing, maybe two things depending on what type of engineer... [It is this] coordination [that the architect brings] to the team because they [the team of specialists] don’t always understand.

When asked if other professionals, e.g. engineers, contractors, etc., acknowledge the value of architects, Miguel laughed and stated, “To my face, they do”. He explained that he couldn’t attribute their valuing architects to the use of BIM, but, rather, as engineers work for clients directly, they can appreciate the architect’s role of running interference

in client negotiations. “I don’t think that they think that we’re kind of superfluous” (Miguel). Or put more bluntly, Casey shared that “the value [of architects] is ‘felt’, and I think also if engineers had to deal directly with clients they would shoot themselves,... honestly. People discount that”. Robert echoes this characteristic of architects dealing with clients as vital, but, with contractors adopting BIM, emphasizes the differences in the design training that architects have received to that that contractors have not had.

You need someone to develop the program, and engage with the client, take care of the client’s interest, and the builder can’t necessarily do that... They haven’t had the design experience... [or] historical experience. They don’t have the material understanding [or] keep up with the new technologies... [or] materials that are changing.

Only Casey addressed her firm’s proactive response to these changes by going to the management structure of one project manager taking the entire project from beginning to completion. They contend that as a designer, “you use your design brain for every decision you make whether it’s in the field or it’s on a sheet of paper or it’s... mass modeling in SketchUp. It’s the same... You’re tapping into the same thing”. As the profession comes to terms with its changing paradigm in today’s society, the national organization representing it plays a role in the status of the profession.

The attributes associated with a SA experience lend themselves to the ability to adapt to the changing dynamics of the profession and constructive collaboration with multiple stakeholders on the creation of numerous, varied project solutions. Miguel, in his role in management, emphasized the important impact SA has on a person as he shared his approach to hiring for his firm.

I would absolutely recommend it... I do a lot of hiring here. You can tell talking with the student whether they have done a study abroad or not just by the way they talk about themselves and architecture. It's a formative experience for a lot of people in terms of how they think about their career or life or architecture in general.

Where all participants maintained they would feel comfortable working on international projects, the opportunities to do so was limited on whether the size of the firm where they worked did projects internationally. As Casey reflected, when asked if SA opened up the opportunity to work internationally, she stated, "It did in my mind". For her SA showed her "that you can do what you do somewhere else... My work was able to hold up somewhere else too." Clarence agreed and stated that he wouldn't be "intimidated" if offered an opportunity at his firm.

Diverse Working Relationships. Communication between parties working internationally can be challenging. A few participants mentioned that the profession of architecture has its own language and, even though teams may be comprised of different language speaking members with different skill sets, the language of the profession transcends this barrier. Bill sees that "architecture is a global language and, while different parts of the world express their architecture differently, the way you think and find solutions and things... [are] all the same, I think". Jeff attributes the

lengthy, academically rigorous [architectural] degree [as evening] out levels of some cultural differences... When you're working in architecture, you're primarily working with other effectively middle-class westernized people so I think there's always cultural differences... much of that is individual

personalities, as well as, national cultural identity. So in my mind, I don't think cultural differences plays a huge role in that.

Miguel pointed out that "it's easy to read an email and misconstrue something or someone doesn't have time or they're just being direct. But being exposed to other cultures will help you realize that other cultures communicate differently than you do". In relaying her struggles with this concept, Reese reflected upon her recent work with colleagues from China and the trouble she had in getting the information she needed for the project. It took some time for her to realize and adjust to the different communication expectations her Chinese colleagues had in order for the collaborative project to work. She feels that her SA experience enabled her to "reframe what you're thinking and reframe the way that you go about talking to people you work with... [to see] where they're coming from and what are their concerns". Similarly, Butch relays that even working with someone from his same firm on the West coast can create interesting working relationships where "his approach and my approach to design is slightly different".

In comparing skill sets, Clarence stated how much he "was floored by just how much talent my peers had over there compared to the states". However, in comparison to her SA experience, Reese thought that working with international students at her home university did more for her than the SA programs she was on. "The Italy program was [with] all students from my undergrad, from the same school. We weren't doing any projects with anyone local in the community". When actually working abroad with international colleagues, Clarence stated that the differences that stood out for him were "with the level of criticism. [Here in the United States, criticism] can get a little watered down or the criticism stops at a certain point", but, in Europe, they critiqued and

reworked until the project was built. “They would still really want to dig into it. It was more of an attitude of not giving up”.

Public’s Awareness of the Architectural Profession. All but two participants were not aware that the AIA had established a continuing public awareness campaign in 2014. Even so, they both understood the need to educate clients on what an architect contributes to the project. Casey reported the typical responses she receives when she tells people she is an architect, ““Oh, you’re good at drawing’ or ‘You can do math’”. She said this frustrates her and went on to comparing what engineers do to that of architects. Engineers work is “quantifiable... If they don’t do their job, then things fall down... [Whereas, she’s heard others say architects are] just here to make things look pretty... [Thus, she contends that] people have lost the value” of the architect. Similarly, when Bill shares his profession with new people he meets in Dallas, the typical response is

‘Whoa, like that’s still a thing?’ or ‘I haven’t met many architects’. They are... fascinated by it, but they don’t know anything about it at all or about what we do... If we can find a way to make our profession more... [understood] in our community that would help a lot.

Clarence also echoed this frustration about the devaluing of architecture here in the U.S. compared to what he witnessed on SA in Europe.

When I was in Lisbon, I would be downtown hanging out with friends and someone would... learn that I worked in an architecture office and would want to talk about architecture and they even knew about architecture of other countries... I don’t find that Americans can tell you much about contemporary architecture... It’s a really big deal to them [in Europe].

Casey noted seeing the same discrepancy of respect of architects between Europe and U.S., but contributed her belief that this is so because Europe values design in general. It was during her SA in Switzerland that she identified the difference in valuing quality over quantity.

In Switzerland specifically, there is a huge focus on quality even in just making shopping decisions like what pair of shoes to buy... They're deliberate in every decision that they make about the things that they own and the things that they want. Here it's flipped. Here it's 'what's the best deal I'm getting?' 'How much can I get for how little?' Here it's quantity. It's all about stuff... I think because of that mentality we have lost the appreciation for design.

As design shows, e.g. food, clothing, etc., continue to stress quality and promote critical thinking by "seeing professionals question different relationships and be deliberate and how they... actually explain... their idea, their design, people start to understand, 'Wow. There's a lot more into that decision than just... picking it'" (Casey). Similar to Casey's thoughts on design becoming more relevant to this generation, Clarence expressed his optimism of architecture being on people's minds as he considers this generation to be "more critical when they make choices... they're always kind of searching for authenticity". Bill stressed that his exposure to historically relevant buildings during SA makes him question the value of today's architecture.

I just feel that to make a quick buck is completely degrading our profession. And seeing the historic architecture of Italy and the amount of resources including labor and money in China to make really nice buildings, I think, is really neat. And so going abroad has helped me see that making nice buildings is a thing that can still be done.

Reese noted the different perspective on the value of architects that Greece has as opposed to the rest of Europe. With there being so many in the small country, and their economic crisis, they have created less value for architectural services, although remaining a noble profession. Jeff has seen a wide spectrum of clients that range from a very good understanding of the value of architects to no knowledge at all. It was during his working abroad that he was able to identify that,

architects in the United States aren't nearly as well respected as architects in Europe in terms of their perceived level of social importance. So I think anything we can do to develop the public's understanding of what we do and the role we play is a positive one.

In reflecting on this, Reese recalled a PBS special explaining what architects do and noted that "you can go to HGTV and see a thousand different house shows," but very little to educate the public on the role of the architect. Miguel noted,

I work at a larger firm, and I think what the AIA is doing in respect to what architects do is good for larger scale projects. I'm not sure that that particular advocacy is helping small residential architects as much.

From the perspective of a small firm, this topic struck a nerve in Robert as he reflected on his years of being in the industry as a design/builder.

My beef with the AIA has always been [that] they deny their heritage; which is design/build. Which I think is fundamental... the beginning of architecture. And they used to fuss at me for being a builder, as well as, an architect. It really angered me. And now they embrace it. A lot of architects are builders. So they were way behind the curve. They're always way behind the curve.

On the issue of the public's awareness of what architects do, he stated that the crux of the matter was the professional organization's responsibility.

They're [the AIA] so busy promoting themselves and patting each other on the back about how good a job they're doing. They lost touch with commonality.

Most people don't know what architects do. Most builders don't use architects.

With even more frustration from it impacting him personally and financially, Robert shared what he considered an insult to architects and their professional role in society by stating,

The architectural license is so poor. I mean the City of San Marcos doesn't even respect my license. I have to have... [drawings] stamped by an engineer. My license [by the State] allows me to do foundations if I feel confident in doing it. They [the City,] won't allow it... They don't give the architect's license any credibility at all. The architectural practice act needs to be strengthened.

As the AIA collects fees to address nationwide political standing of architects and the profession, Robert challenged that they need to get "more involved in the community life".

Summary of Study Abroad's Impact on Professional Practice. The responses of the participants attribute the SA experiences for improving their professional and personal skillsets that have benefited their professional practice. From witnessing different architectural styles, cultures, and skills of peers to comparative values of the profession and design, the participants discussed the challenges to current practice. From the encroachment of other disciplines into areas of historical architecture practice, to the public awareness program instituted by the professional organization, AIA, the

participants shared their insights on the need to educate the public on their profession, understand the value associated with design and practice in both the U.S. and other locations, identify the ramifications of technological advances on their practice, and respond to the cultural awareness required of a more global society. The SA experiences were agreed to have added value to their professional skills.

Summary of Findings

This research explores the underlying elements that define what is known as the architectural profession, the acquisition of professional identity and creative abilities, and the inter-relationships between the architectural community of practice (CoP) by the analysis of the participants' reflections of their SA experiences. Through the reflections on their SA experiences, the participants were asked to remember and make associations to their academic education, professional identity, and professional practice. For clarity, here are the research questions that have framed this study.

Research Question 1: For practicing architects, what is the perceived impact of SA program participation on their professional identity, practice, and creativity?

Research Question 2: How does the synergistic influence of SA impact professional architectural identity?

Findings on the Academic Study Abroad Experience. The importance of the SA experience for students is widely recognized in architectural education programs across the U.S. as demonstrated by the online recommendations or program requirements. The programs are promoted as beneficial to students for a variety of reasons. Driven by similar and different motives, the decision to pursue a SA semester required the current study's participants to negotiate schedules, cost, and receipt of academic credit as they prepared for unfamiliar academic and living situations. From a transient to immersive

experience, their stories share the common threads of cultural awareness, architectural cognizance, critical thinking skills, experiential acumen, exposure to worldviews, and professional preparation, as well as, temporal and self-awareness, self-confidence, independence, self-reliance, and self-efficacy. Limited time on the SA promoted discerning activities, focused studies, and bonding relationships, while the advent of social media has enabled continued contact. Exposure to different studio environments, instructor accessibility, and pedagogy led to an awareness of different educational styles and questions of best practices. Their reflections on their SA experiences were enriched by their varying levels and years in professional practice. Where some experienced vivid memories of cultural exchange that were expressed in intonation, sighing, and laughter, other participants shared their experiences pleasantly, but somewhat disconnected from emotion appearing that their memories were tempered by time. The level of interaction with the community appears to be the main element of the participants' perspective of cultural awareness, both their own and the one visiting, challenging stereotypes, and language improvement. The diversity of peers from both traveling and immersive groups were said to enhance the learning of diverse skill sets, greater communication and problem solving skills, awareness of different educational styles, appreciation of other perspectives, and the availability of unique opportunities for learning. Some of the stories of the SA experience reinforcing their degree selection and motivation to complete and/or continue their studies; others tell of embarrassing moments where cultural faux pas occurred, but were reflected upon not as negative events, but rather as badges of overcoming adversity and stages of awareness. As part of the foundation of their future career, the SA experience also provided them with examples of the societal responsibilities, varied urban scale, comparisons of the value of the profession and

building quality, as well as, expanding their design repertoire. While reflecting, memories that some participants talked about were noted as creating a common thread between others that had studied abroad, even at different times enhancing communication and design opportunities. Many also expressed that SA was the catalyst and preparation for the lifelong learning required of the profession adding their desire to travel and repeat the experiences again.

Findings on the Development of Professional Identity. When discussing their professional identity, participants identified creator, problem solver, place maker, and manager of people as main identities that came to mind. Definitions of architect, engineer, and contractor were mentioned by many as each participant explored the ongoing shift in the scope of work architects contribute to projects. Engineers were defined as being specialists of their discipline, e.g. civil, mechanical, electrical, landscaping, or structural, where architects, on the other hand, continue to be defined as the person that has the holistic, big picture that coordinates the entire project package and acts as the lead of the other consultants for the project. The level of advancement in the profession of the participants became evident in their discussions as their professional identity was impacted by the size of the firm where they worked, as well as, the type of projects the firm produced. From small firms focusing on client relationships and community involvement to the shift to larger corporate enterprises with satellite offices, there was a concern expressed about the ability of architects to adapt to this change.

The architect, as problem solver, was identified with the characteristics of resolving complicated problems down to refined, synthesized solutions that require critical thinking, verbal and graphic marketing and creative presentation skills. The master/builder ancestry carries forward today with architects operating as design/builders

with the design aspect representing the social contribution by the architect. This social aspect associated with architects is mandated by their licensing requirements to uphold the safety and welfare of the public.

As place maker, participants mentioned the importance of enhancing their design imagery on SA by witnessing historical buildings and the urban scale of European cities, as well as, the use of different materials and techniques. Whether actually used in their current practice or not, their awareness of different micro/macro environments and their expanded worldview has contributed to their design choices. This expands the role from the U.S. singular project to the larger urbanization of context. In creating places, the architect must be attentive to their client as they interpret the program and synthesize all the options as they create the project's design solution imbued with an intangible quality of space.

Some participants noted their adjustment from architect to a manager of people. With the advancement, the skills and knowledge they have acquired are relegated to delegating and training others in design and practice as their cost to the project and company is less economically feasible to design budgets. Specializations have also been created internal to the architect's office with those that have strong design skills forming design teams. Managers, thus, have either specialists or younger staff to work through design problems. The manager requires strong people and communication skills to deal with the variety of stakeholders involved in projects. SA has been attributed with contributing to improved communication skills.

Being creative is key to the architect's skill set and all of the participants agreed that SA contributed elements to their creative abilities. From expanding their architectural repertoire and opening their mind to new ways of designing in different

contexts to being enveloped in the environment of the actual space, they each contributed stories that expressed the creative impact they experienced on SA. At varying levels, these creative reflections were attributed to their expanded freedom to express creative design solutions and impacted the way in which they currently designed and practiced. In the pursuit of the correct solution to a design problem, architects that have studied abroad experience an awakening of their awareness of different processes of design, communication, methods of construction, materiality, cultural norms, etc. This awareness, in and of itself, removes the stifling restrictions of certainty and invigorates creativity. Creative ability permeates every facet of practice from synthesizing the complexity of the design, leading the numerous participants of varied disciplines on a project, designing a project that surpasses the challenges of the client, and successfully completing the evasive quest of creating a project that encompasses the aspirations, dreams, and welfare of the culture it inhabits. SA further enhances the adaptability of the professional enabling fluid reaction to changes in projects, relationships, and the current state of the profession.

As the base to forming professional identity, school instills the basic design skills supplemented by SA, and the acquisition of self-efficacy and cultural awareness identified from reflective exercises while working in the profession adds layers of experience in construction documents, management, collaboration, and communication abilities. Immersed in practice, the participants relayed that SA assisted in their improved ability to be good communicators and to work with diverse people in different locations and circumstances. Exposure to construction sites and processes is recommended for improved, mutually respectful relationships with contractors. As the need has been identified by the national representatives of the profession, the AIA, it has

created a national marketing push to explain the profession to the public. Many participants aware of the effort with only a couple unaware. However, they too acknowledged the need to educate the public on the architectural profession. The separation of roles in the design/construction industry has led to this confusion and is amplified by the paradigm shift brought about by role-claims of other professional fields and technological advances. A request from one participant to the AIA was to address the reduced value of the architectural license. The different value placed on the architectural profession, building methods, and level of critique in the U.S. versus Europe was mentioned by many participants with one suggesting that it is culturally based with possible value training.

Findings on Study Abroad's Impact on Professional Practice. From the master/builder beginnings to today's technologically advanced and challenged environment, the participants shared their perceptions of how the effects of SA have permeated their architectural practice. With the changes the profession has endured and is currently experiencing in scope of work brought about by legislative action, shifts in paradigm, technological advances, and specializations, this environment requires the ability to adapt and be flexible in today's business climate. These important attributes were noted by participants to be part of SA's contribution to their professional characteristics.

The SA international experience encouraged many to participate in international work if given the opportunity to in the firms that they worked. For some working internationally now, they share that the SA exposure to handling diverse situations and groups of people has contributed to their success in appreciating different communication styles and work ethic, as well as, their confidence to handle them. Those not currently

working internationally feel confident that if future opportunities arise they would not be intimidated to apply themselves as they have proven through SA that they can compete on the international level. Many noted that the common language of architecture could be attributed to the ease in working in diverse relationships, but, so too, that the typical U.S. architect is limited in the use of only one language. SA has been identified as a valuable asset for resumes, confidence in interviews, career enhancement, and a catalyst of professional, lifelong development.

The ability to work with diverse groups of people has been associated by the participants as an asset improved by the SA experience. Even though many contend that the architectural language that is shared among all in the profession, the participants discussed that having the appreciation, respect, and understanding of other cultures, communication styles, skill sets, viewpoints, and work ethic enhanced by SA has contributed to their current abilities to make collaborations, both internal and external to the office, work in their practice.

In reflecting on this quandary of the identity of the profession, participants discussed the need of the architectural profession to define and defend itself for the public, as well as, itself as other professions have been allowed to encroach into the scope of work formerly done by architects. In comparing the profession in SA travels, participants responded that architecture and the profession appeared to have more value abroad than in the U.S. The master/builder founding gave the profession its original definition that has been narrowing for centuries. Coming to grips with this changing definition, participants described the training architects receive as design-oriented and multi-disciplinary enabling creative synthesis and communications between all stakeholders of the project whereas the other disciplines, engineering and construction,

are now doing the work historically done by architects. Their training is not design-infused nor holistic, but rather singularly, discipline-focused. The architect assists the client in preparing the program, designs the project, produces the construction documents and, as such, has the overview of the project due to the creation. Both engineering and construction have roles to play in the process, but neither has replaced nor eliminated the architect's role. The technological advancements play a part of this dilemma as both the design, engineering, and construction industry have access to software that enhances the construction document's process, is more user friendly and easily accessible. Depending on the size of the firm and projects, different software can be used on different projects within the same office. The technological advancement of employees with abilities on many software platforms is highly competitive and mandatory in many firms.

Participants reference the increase in design-oriented shows as a possible way to contribute to the public's design understanding and ability to make critical choices thus acknowledging and reinforcing the design impetus of the architectural profession. Given the task as the professional organization to represent architects across the nation to the legislature, the AIA has been challenged to foresee the implications of their inaction pertaining to devalued licensure and this encroachment.

Findings on Study Abroad's Importance. With 100% of the participants viewing SA as an intrinsic component of their architectural identity and practice, many stressed that SA was a defining experience that did and continues to promote and nurture their current professional position as mastering architecture is a lifelong pursuit. Exposure to different cultures, peoples, materials, and techniques contributes to the continued vitality of the profession. With increasing access to immediate information and the world stage, all recommended that architectural programs continue SA initiatives.

The focus of this research on the impact SA plays on the formation of professional architectural identity is important in today's time due to the above reflections shared by the participants discussing the paradigm shift from the historical definition of the architectural profession to that of a team approach.

IV. CONCLUSION

Discussion

As the goal of this research is to answer the original research questions, they have been listed below for reference. The data will then be discussed further in contrast to the literature review and the contribution that this offers to our understanding of the impact SA has on professional architectural identity.

Research Question 1: For practicing architects, what is the perceived impact of SA program participation on their professional identity, practice, and creativity?

Research Question 2: How does the synergistic influence of SA impact professional architectural identity?

Perception of Study Abroad Experience on Professional Identity, Practice, and Creativity. The participants, with their varying SA programs, durations, locations, and work experience, all shared that SA had impacted their personal and professional identities and, thus, recommended that students and professionals, alike, continue to pursue SA and travel opportunities in their architectural studies and practice. Identifying the impact studying abroad years ago has had on them as practicing architects now, the participants described events and experiences that awakened and enhanced their training and personal growth. Their SA reflections enabled them to make comparisons between the elements of Lave and Wenger's (1991) community of practice (CoP), i.e. education, practicing professionals, and the profession, through their perspectives of historical and current professional identity, educational pedagogy, and their awareness and understanding of the complexity of a global society. The societal responsibility of the profession surfaced in many discussions as being a strong characteristic that SA accentuated with its exposure to other cultures and worldviews. Challenging their own

cultural opinion by witnessing that of others created possibilities for different ways of being, living, and creating/designing- critical components of the architect's identity referred to as "social art" (Boyer & Mitgang, 1996). Obtaining this cultural awareness contributes to UNESCO and the UIA's (2011) call that architects not be "excluded from built environment project[s]" (p. 1). Their goal is to promote a more global architectural education that takes a greater role in preparing the professional with a worldwide perspective that will contribute their problem solving skills to improve the "human environments" for all peoples (p. 1). The different teaching styles the participants experienced in studio and other courses allowed them to acquire critical thinking skills in relation to architectural education, as well as, the dynamics found in their work environments. As communication in all forms, i.e. graphic, written, and oral, is such a key element in any dialogue, the nature and acquisition are vital to the design and work environment of practicing architectural professionals.

Synergistic Impact on Professional Architectural Identity. As the profession of architecture is a lifelong career that intertwines the personal and professional characteristics of an architect, the architect's identity formation requires specialized training, creative ability, acquisition of language, and professional licensure all supported by strong personal characteristics. These elements are essential in understanding the current state of the CoP of architecture. The training component, the architectural studio, is the laboratory where architectural students begin their journey to form their professional identity. It is infused with opportunities to expand the many skill sets required to design, create, and present solutions for future client's projects. Likened to the structure of Vygotsky's (1978) "zone of proximal development", studio immerses the student in the master/apprentice (instructor/student) hierarchy where the instructor

facilitates the progression of the student's skill sets by setting the example and challenging the student to produce. The instructor's demeanor can appear vague, non-personal, domineering, or unforgiving as the student begins this journey to design maturity in understanding the "unexplainable process of design," referred to earlier as Schön's (1987) paradox, and the language of architecture. The creative aspect of an architect requires awareness of other ways of being, as well as, the impact of context, ability to filter the many different facets of the problem to envision different solutions, understanding the need to be critiqued by and for others on one's own work, self-reflection, and sensual immersion of architecturally lived experiences for use in designing new spaces. Being exposed to a different perspective humbles and enriches the professional so that designing can evolve beyond the initial knowledge base and allow for creativity to flourish and unknown possibilities to be realized. Self-efficacy and self-confidence encourage exploration of ideas that are new and will require fulfillment and defending; defense of design as their "professional identity depends on it" (Cuff, 1991, p. 21). Both are required characteristics for an architect in his/her dealings with all stakeholders as the coordinator of the entire project. These are also important in working in amorphous situations where the challenges of solving problems could undermine a person less prepared and less comfortable in taking on the unknown. Perhaps seen as arrogance by some, this confidence is practiced in studios with constant critique both from others and self, but is practiced, proven, and honed both in the home university and in an actual, external context of SA contributing to further confidence gained from succeeding in an international critique.

Participants reported the enrichment they received from their exposure to the SA studio, peers, and instructors as contributing to their cultural and self-awareness and

global identity similar to Coryell, Spencer, and Sehin's (2013) research results. As well, participants attributed SA to increasing their communication skills, expanding their mindsets, and confidence in their professional skills. The SA experiences, further, helped to establish a connection among individuals that transcends time, enriches shared visions, and reduces difficulties in diverse working relationships, both internal and external in professional practice. Exposure to this diversity makes the student aware of another person's work habits, skill sets, and communication style, as well as, enables more understanding of how working with others brings unique challenges and opportunities for growth, learning, and improved communication skills, thus supporting Blum and Bourn's (2013) recommendations. As practicing professionals contributing to the professional architectural CoP, these assets, enhanced by their SA experiences, promote a more global connection between architects and their understanding of the profession, both historic and current. This understanding and involvement in the professional organization, AIA, amplifies single voices into a stronger advocate for dialogue, education, growth, and protection of the profession.

Experiencing the temporal, sensuous, and cultural meaning as expressed by the micro and macro environments of SA adventures, students and practicing professionals are able to cultivate elements of their exposure into their practice and projects. Further, witnessing the different practice of architecture abroad also enriches the professional identity for the participants. Noting the less respect here in the U.S. versus the SA countries, the participants reflected on the profession's status worldwide. Supporting Boyer and Mitgang's (1996) contention that there are still relevant issues that need to be resolved and Gutman's (1988) critical point of securing the architect's role from other disciplines, this comparison enabled some to critically reflect on the connection between

the identity of the profession in the U.S. and the reactive not proactive action and/or inaction of the professional organization created to promote and safeguard the profession's status.

The impact of SA assisted the awakening of the participants to the awareness of differences between cultures by actually experiencing them, while their reflections actually brought out memories of feeling cold, embarrassed, lost, and confused, among others. From diverse social norms, day to day living, accessibility to goods, and unique opportunities to exploring architectural icons and meeting special people, the participants that were immersed in the culture came away with memories that they were able to reflect upon some years later with greater recall and emotion.

Implications

Development of Architectural Education. SA, thus, exposes students to different thought processes, skill sets, pedagogy, and paradigms, even within the same country, allowing cross-pollination among programs, disciplines, and practicing professionals. With encouragement by instructors, international students on U.S. campuses also contribute by their attendance different skill sets, processes, and culture adding to the cultural awareness among students unable to SA. Architectural programs need only use enhancement techniques to utilize this cross pollination internal to their campuses.

Development of Professional Architectural Identity and Practice. The formation of an architect's professional identity begins to form during the initial architectural classes and builds as the student is immersed and advances in progressive levels of the studio environment with the instructor/student dynamic, mastery and protection of the creative act, synthesis of knowledge from other disciplines, and

increased confidence in varying forms of communication and leadership. Introducing SA and its benefits to these formative years amplifies the student's personal and initial professional identity by nurturing self-confidence, self-efficacy, cultural awareness, and open mindedness. Having been successful in the academic CoP and armed with the SA amplification, this fledgling identity is immersed into the professional CoP to master the different relationship dynamics of colleagues, owners, consultants, and contractors while obtaining the skillsets and processes to promote a viable constructed project. The architect's multi-layered identity resulting from the contributions of each CoP and the SA experiences continue to interact and morph as paradigms shift with advancements in position and changes in practice.

As the professional architectural identity in the U.S. is undergoing this transformation, the AIA, as the "voice" of the professional CoP in legislative dealings, should encourage further dialogue with practicing architects pertaining to AIA's representation being in-line with current issues, e.g. identification of current trends in professional identity relative to the public and other professions, licensing issues with governmental entities, awareness and promotion of the majority membership's concerns in critiquing governmental policy, etc. So, too, acknowledging that the line of communication works in both directions, the practicing professional, to protect her/his professional identity, should actively participate in the professional CoP organization and bring to awareness issues pertaining to the professions to local, state, and national AIA representatives so that the organization can be proactive and not reactive.

Development of Professional Creativity. Seeing and experiencing diverse cultures, ideologies, peoples, and places that have deep ripples in the mind of a designer encourages making connections to otherwise foreign ideas or situations, increases the

ability to listen and hear diverse viewpoints, and, through experience, allows synthesis of design inspiration to occur. As creativity/design is a main element of an architect's identity, the act of design itself needs respect and support to exist in today's realm of BIM. Awareness by other stakeholders of the architect's creative contributions to the project team needs to be promoted in the foundation of the academic CoP of the respective disciplines. For example, there is confusion that the act of producing a BIM model from initial architectural plans can eliminate the architect and that contractors can produce plans. BIM is still considered construction, albeit virtual, and not a replacement of the architectural creative process.

Future Research

This study has left me with other questions that I deem further research should explore relative to SA and professional architectural identity. This same study can be done from the perspective of internationally practicing architects to identify their professional architectural identity and the impacts SA and BIM has had on them. Further, research from the architectural educator's perspective, both U.S. and international, would add value from another set of essential agents in the architecture CoP. A comparative study is also warranted of the value design has in different cultures and the impact it has on architecture and culture. A study could also be done on the immediate gratification culture of the U.S. versus other cultures, and its impact on architectural education and the profession. Is this similar to that of a teenager becoming a grown up and expecting to have everything his/her parents spent their lives acquiring? Another topic of study could be to investigate the current state of contribution/exclusion of the architectural profession on the built environment as noted by UNESCO and UIA's 2011 report. A comparative study can also be undertaken to explore the differences

between architects that did and did not participate in SA and how, if any, SA impacted their preparedness for management positions. A further research needs to be done on the lack of detailing of construction documents and the liability associated with this lack is a concern in the definition and blurring of the lines between the stakeholder, e.g. architect, engineer, general contractor, subcontractor, or supplier.

APPENDIX SECTION

APPENDIX A: Interview Protocol (semi-structured)

Research Questions

Research Question 1: For practicing architects, what is the perceived impact of SA program participation on their professional identity, practice, and creativity?

Research Question 2: How does the synergistic influence of SA impact professional architectural identity?

Demographics

1. What is your name?
2. What is your gender?
3. What is your ethnicity?
4. What is your professional title?
5. In what state are you licensed?
6. How long have you been practicing?
7. Where did you receive your architectural degree?
8. Where did you do your study abroad?
9. What type of program - university program or independent?

Reflection on the impact SA has had on professional identity

10. How would you describe your professional identity to someone unfamiliar to what an architect does?
11. How did you form your professional identity?
12. What, if any, was the impact that study abroad had on your identity as a professional architect? Are there any stories you can share to elaborate?
13. Do you feel the study abroad experience is important to the architectural

profession? If so, please explain. If not, why not?

14. Would you recommend doing a study abroad to current students in the profession? Why or why not?

15. Are you aware of AIA's national public awareness campaign designed to change public perception of architects and architecture? What are your thoughts about it?

16. Do you question the viability of the architectural profession? Did your experience in SA have any impact on this?

Reflection on the impact SA has had on practice

17. What impact, if any, has the study abroad experience had on your professional practice? Can you share some examples?

18. Do you participate in or intend to pursue international work in your practice? If yes, please describe how.

Reflection on the impact SA has had on creativity

19. What would you identify as being the important abilities that the architect brings to the project?

20. Did the SA experience impact on your design abilities? If so, in what ways?

21. Did your design abilities change any during and after your SA experience? To what you would attribute this change?

22. Has there been an instance or instances when the design solution became readily apparent? Did this occur before, during, or after your SA experience?

23. Do you reflect back on your SA experience when you are designing?

24. Do you replicate the environment where you were most creative? Where was this?

Reflection on the impact SA has had on you personally

25. Would you say that studying abroad had an impact on you personally? If so, why

do you think so and what was that impact?

26. Are there any further comments you would like to share?

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