

# Theory and Practice: The Formulation and Delivery of Teaching Professional Practice

**JESSICA GARCIA FRITZ**

South Dakota State University

**CHARLES MACBRIDE**

University of Texas at Arlington

**FEDERICO GARCIA LAMMERS**

South Dakota State University

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**This paper describes the pedagogy, development, and delivery of an ongoing professional practice (pro-practice) course sequence, as both a critique of traditional pro-practice coursework and within the unique context of a recently formed architecture program in an underserved region. Among the challenges in starting a degree program from scratch is the approach to pedagogy and curriculum. Student exposure to a range of voices and instructors is a significant challenge and one that has been addressed through a curriculum of interrelated course sequences, including studio, media, history, technology, and perhaps most successfully, professional practice.**

**Delivered across the final four semesters of the program, the professional practice sequence has been consciously developed to teach to an inseparable condition of practice and theory. In addition, the courses have been conceived within the unique and place-specific lessons of a small program with little architectural tradition. Practice has its own narrowly defined lane in the region, and as such, any theory surrounding it has only now been proposed or verbalized by the emerging faculty.**

**Though traditional pro-practice courses typically exist as a single-semester offering, spreading content across four courses has allowed the department to connect diverse theoretical and practical positions, while exceeding the narrow requirements for accreditation. Legal responsibilities in the profession, financial practices, environmental ethics, and the management of practice unfold respectively through Regulation, Economics, Stewardship, and Management courses. These themes are theoretically framed by rooting architectural practices through their historical emergence, intersection with small urban places, and as a critique of normative models. Simultaneously, they are framed as theoretical extensions of the studio and other curricular course sequences. It has been found that this four-course sequence has established a popular and successful teaching methodology that both supports departmental pedagogy and has introduced a platform for wider investigation and dialogue in this professional context.**

“Theory’s promise is to make up for what practice lacks: to confer unity on the disparate procedures of design and construction...It is of little use to see theory and practice as competing abstractions, and to argue for one over the other. Intelligent, creative practices – the writing of theory included – are always more than the habitual exercise of rules defined elsewhere.”<sup>1</sup>

—Stan Allen, *Practice vs. Project*

“Practice, as the format or terrain of architectural intervention and invention, is no longer singular but plural, no longer about propriety (the proper place of the architect or the proper rules of the game): practices are tactical operations, multiple, diverse, and competitive, operations that transform, deform, contest, and define the discipline and its spaces of effects.”<sup>2</sup>

—Helene Furján, *Practice*

## INTRODUCTION

The challenges posed by Stan Allen and Helene Furján, to move beyond theory and practice as two separate entities in order to create plurality, address the typically ahistorical approach to professional practice delivery. Practice, which engages in non-identical, repetitive, tactical operations, is affected by real world contingencies. It is a form of knowledge based in socially situated events and relationships. Theory is reflective in nature and serves as the grand narrative for unifying the discipline.<sup>3</sup> Historically, practice and theory have remained largely separate as architectural education oscillated between vocational field and virtuous profession. The traditional pro-practice course, a single-semester course offering encompassing the narrow requirements of accreditation or particular motivation from the profession, reflects this oscillation within architectural education.

Reflecting upon the historical development of pro-practice courses in the United States and specifically in the Midwest, the faculty of the Department of Architecture (DoArch) at South Dakota State University (SDSU) gained the opportunity to prioritize the relationship between theory and practice in the design of a new curriculum. The requirements delineated

in *Realm D: Professional Practice* by the National Architectural Accrediting Board (NAAB)<sup>4</sup> address contemporary business practices in architecture and construction. In order to exceed NAAB’s requirements, DoArch spread content across four courses, connecting diverse theoretical and practical positions across two years of teaching with courses in “Regulation”, “Economics”, “Stewardship”, and “Management”. These current themes are theoretically framed by rooting architectural practices through their intersection with small urban places, as a critique of normative models of practice, and their historical emergence. Simultaneously, they are framed as theoretical extensions of the studio and other curricular course sequences (Figure 1).

This paper describes the four-course pro-practice sequence in the DoArch curriculum as a contextual and pedagogical

response to creating a new degree program and as a broader critique of pro-practice instruction. The pro-practice sequence has been consciously developed to teach an inseparable condition of practice and theory by avoiding the “fiction” and abstraction of meaning that Allen argues against.<sup>5</sup> Practice has its own narrowly defined lane in the region, and as such, any theory surrounding it has only now been proposed or verbalized by the emerging faculty. Spread across four individual courses, the pro-practice sequence has broadened the approaches to practice in the region by gently agitating for a plurality of reflective and speculative activity.

**BACKGROUND AND FORMULATION**

In 2016, DoArch, in only its sixth year, became the first accredited Master of Architecture degree program in the state

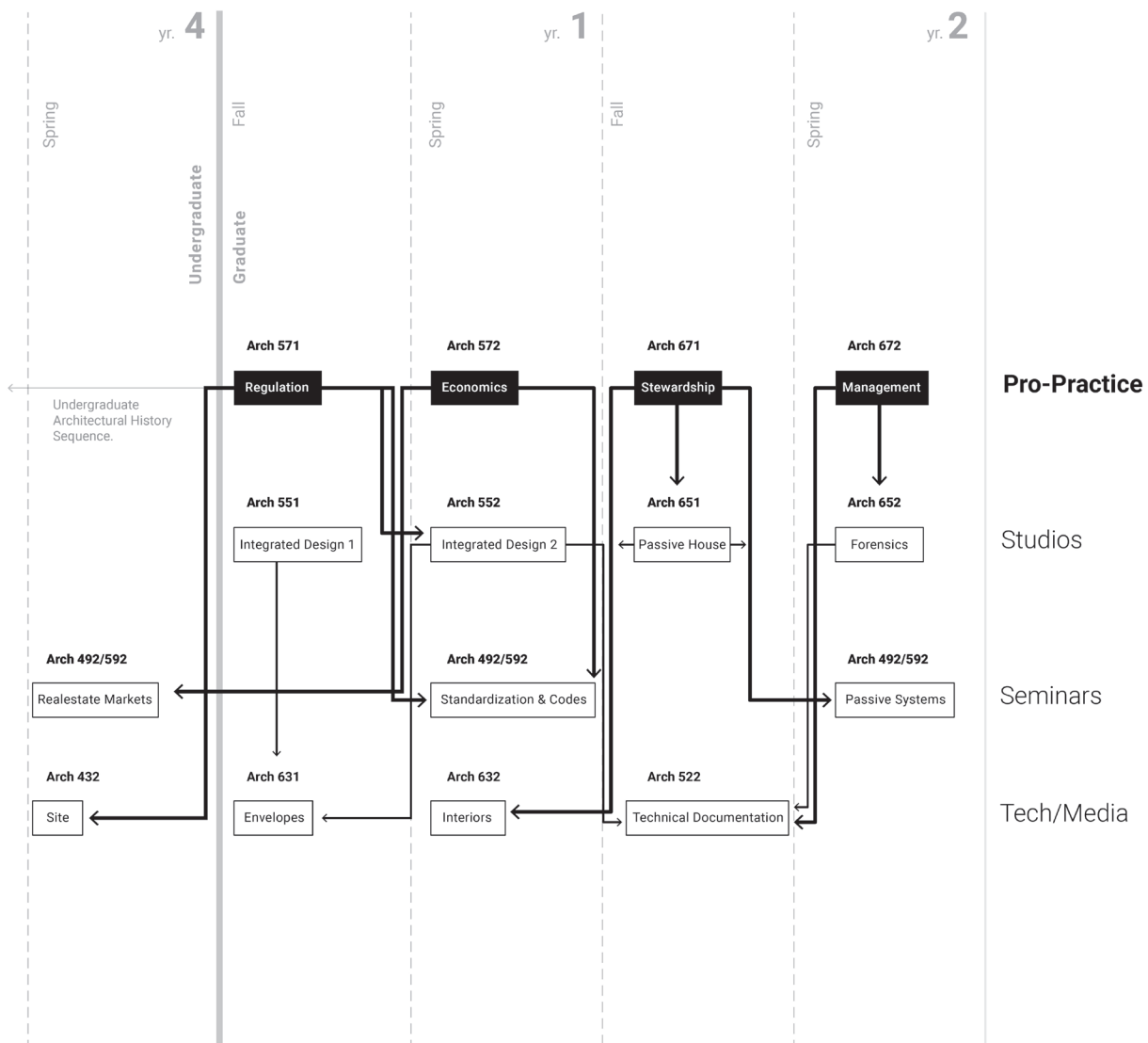


Figure 1. M.Arch Curriculum Diagram highlighting the intra-curricular connections between the professional practice sequence and the rest of the professional M.Arch curriculum at DoArch. Image credit: DoArch.



Figure 2. DoArch Public Works “Big Model” presentation, built by first-year students and shared with the community in Mobridge, SD. Image Credit: DoArch.



Figure 3. Public Works Beam, the second permanent structure installed through the PCI Grant in Webster, SD. Image credit: DoArch.

of South Dakota. The department was formed as an initiative by architects in professional offices in Sioux Falls, who identified the real potential for the state’s architects to “age-out” in the coming years. Because no professional program had previously existed in the state, larger architectural culture and activity was driven by a handful of architects in small to medium sized service firms practicing in Sioux Falls and Rapid City, the state’s two largest cities. Funding for the program was dedicated by four Sioux Falls offices and one SDSU Engineering alumni, with an operational directive to remain a small department connected to the regional profession.

Starting in 2010, new faculty were immediately active in connecting students with professional events such as the annual AIASD convention and other community outreach projects across the state. At this point in the program’s development two observations became clear. First, the state was largely underserved in terms of public investment and recognition of historical downtowns. Faculty along with students enrolled in the first year of the program visited, documented, and built a combined “Big Model” (Figure 2) of Mobridge, SD that was presented back to the community. Faculty and student observations of vacant, marginalized spaces persisted in subsequent years as studies were expanded into proposed interventions in surrounding small towns. The program developed as a wider, public recognition of these small communities with Public Works quickly becoming a core tenant of DoArch’s curriculum. Public Works explore the political forces that shape (and misshape) the built environment. With every Public Works project, DoArch faculty and students carefully craft a set of spatial provocations that advocate for the development of public space in small South Dakota communities.

Public Works served as the catalyst for the second observation. Because the program’s pro-practice sequence did not start until 2014 (five years into the program), reflection had to be found through practice first. A four-year grant from the Precast Concrete Institute (PCI) supported both the Public Works efforts and the department’s making-based, hands-on pedagogy of the Building Arts. The PCI grant allowed faculty and students in their third year to design, specify, negotiate, and deliver permanent structures in marginalized spaces in small communities such as Mobridge, Webster, and Volga, South Dakota (Figure 3). What resulted were a series of projects that shaped the built environment through polemical political positions, economic and financial concerns, sustainable systems, and management practices. Reflection upon Public Works and Building Arts projects served as the initial foundation for the four-course, pro-practice sequence by addressing how the narrow condition of practice in the region could be critiqued and broadened through a model of plurality in the DoArch curriculum.

### **REGULATION, ECONOMICS, STEWARDSHIP, MANAGEMENT**

As a new program, the design of the DoArch curriculum was necessarily shaped through multiple constraints. Each of the first six years of the program required an entirely new

collection of courses offered and taught for the first time. This paper does not offer a pathway for accreditation; rather it is a discussion of a curricular sequence designed within a shared, pedagogical belief that also provides an alternative to given accreditation criteria. Legal responsibilities in the profession, financial practices, environmental ethics, and the management of practice unfold respectively through *Regulation*, *Economics*, *Stewardship*, and *Management* courses. The first two courses (Regulation and Economics) introduce the theoretical core of the pro-practice sequence. The last two courses (Stewardship and Management) unfold this core through a series of specific assignments that combine the theoretical and practical nature of practice with ethical concerns.

**Year 1: Regulation and Economics.** The development and implementation of regulations, standards, and codes shapes the relationship between architecture and politics. *ARCH 571: Regulation* presents a diverse, historical and cultural framework that examines the role of regulations in architecture. The eight main cultural organisms described in Oswald Spengler's "The Decline of the West" establish the cross-cultural context of the lectures and readings. Each week students are introduced to Mesoamerican, Classical, Western, Arabian, Indian, Chinese, Egyptian, and Babylonian contexts that focus on architects, thinkers, and urbanists, whose practices leverage regulatory parameters to assert polemical political positions. The initial part of the course focuses on regulation as a social and cultural construct that is critical to the manipulation of land and the evolution of cities. The second part of the class examines regulation as a means of establishing codes and standards associated with the design and construction of buildings. The final part of ARCH 571 studies regulations as means of shaping the professional practice of architecture.

Architectural production is an evolving cultural and economic practice that is deeply tied to the ambitions of society. The professional education of architects is connected to these ambitions, but is traditionally less distinguished between the financial (flow of money) and economic (flow of goods, people, materials, data, etc.) legacy of these ambitions. The topics addressed in *ARCH 572: Economics* include traditional delivery methods, the client's role, and alternative models of contemporary practice. The course is organized into three sections: Architectural Economics, Architectural Business Practices, and Architectural Finances. The first part of the class unfolds the economic systems that shaped and currently affect architectural practice. Understanding the consequences of the hierarchical relationship between these economic systems is the goal of the first five weeks of class. During the second part of the course, lectures focus on strategies used by architectural firms to confront established economic systems. Casting a lens over the status-quo of practice includes close inspection of how firms establish organization systems, marketing, and entrepreneurial practices. The final part of the semester centers on the economics of "the architectural project". The conclusion of the course addresses how projects are funded and how financial considerations are leveraged with design decisions within an individual project.

**Year 2: Stewardship and Management.** Concerns about the stewardship of the environment, profession, and discipline present architects with ethical dilemmas that manifest the most urgent issues facing theory and practice. The focus of *ARCH 671: Stewardship* tracks the role of stewardship and the ethical and environmental responsibility architects face as professionals. Understanding the critique within the legacy of stewardship and the evolution of the sustainability movement is central to the instruction. The course is divided into three areas of study: Stewardship and Sustainability, Stewardship and Ethics, Stewardship and Leadership. Through each section of the course, students demonstrate an understanding of human behavior and its environmental impact across time and place. The course makes a case for stewardship as a lens to study the socio-technical consequences of building systems. The introduction to ARCH 671 explains current issues of sustainability, tracking its origins, and examining current codes, regulations, and/or certifications such as LEED and Passive House. This introduction also offers a critique of "greenwashing" and "green consumerism", demanding an examination of what sustainability means currently and to the future. The second part of this course positions stewardship within a social polemic that places architecture at the service of an affluent clientele instead of addressing the "needs of the other 99%". Finally, stewardship ties to leadership in the profession through the importance of professional judgement in practice.

The delivery of architectural projects and the composition of professional offices has changed dramatically and expanded in scope over the past generation. It is increasingly important to consider the mission and goals of an office and its ability to function and provide services. Ideas can be considered a design project in their own right. Combined with an overview of both traditional and emerging methods of management and production, *ARCH 672: Management* presents issues of professional ethics, internal firm management, contract agreements, and project delivery. In addition, the course reinforces issues introduced in the three previous pro-practice courses, and in a larger way, expands upon the design process taught throughout the entire professional curriculum. Assignments and readings present material that applies to aspects of architectural practice, focusing especially on establishing project teams, identifying work plans, and responding to issues related to the construction and design industry.

**Teaching, Assessment, Reinforcement and Synergies.** The teaching methods for each course are based in small seminar and discussion formats. All four courses revisit and synthesize previously taught material, while engaging the rhetorical space between theory and practice through lectures, assigned texts, discussions, and assignments. *Regulation* and *Economics* rely on lecture-based discussions that encourage students to lead conversations expanding on the social, economic, and cultural issues introduced in the undergraduate history sequence. *Stewardship* and *Management* directly engage with the *Tech/Media* and *Studio* sequences by introducing course assignments that are connected to previous student design work. Each

pro-practice course concludes with a final exam that reinforces Helene Furján's provocation about strategies of architectural intervention that are no longer singular but plural.

In *Stewardship*, there are three primary assignments in which students pair analysis of the ethical and regulatory parameters of stewardship with the technical knowledge of material and building systems. This work culminates in a research paper about "alternative practices", which supports concurrent student work in the *ARCH 651: Passive House Studio*. Student research compares sustainable certification systems, such as LEED, Passive House, Living Building Challenge, EnergyStar, and Zero Energy Building by unfolding the role of Public Interest Design. *Stewardship* and the *Passive House Studio* are also connected to the technical documentation and content of *ARCH 632: Interiors* (or more accurately, *Interior Environments*). The student work and assessment methods in *Management* are structured around weekly assignments that build into two larger projects: the "Residential Client" (project 1) and the "RFQ" (project 2). Work culminates in an RFQ proposal through which students draft a mission and vision statement, work plan, project schedule, project team and personnel, and contracts using AIA templates. The result combines marketing and graphic strategies with an understanding of firm management, project acquisition, and delivery methods.

Reading is the most important part of *Regulation*. Pier Vittorio Aureli's, "The City as Project" serves as the primary text for the course and the hinge between theoretical and practical discussions, intersecting cities and building typologies with the "authority of codes" such as Vitruvius' *Ten Books* and the *International Building Code*. Lectures and discussions are chronicled in detailed "meeting minutes", which provide the primary method of assessment. Each student is responsible for taking comprehensive meeting minutes for three class sessions. Meeting minutes are collectively reviewed at the beginning of each class session and shared in an online Excel document. This document is a comprehensive transcript of the class. The written midterm and final exam consist of expanding on three overlooked sections of the document. In *Economics*, students conduct two case studies that correspond to the first two sections of the course. The "Architectural Economics" case study asks students to use the lecture information to construct a short paper comparing and contrasting two economic systems with two architectural projects that support these systems. The second case study, "Architectural Business Practices," asks students to study the practices of three of the architectural firms discussed in class. Both case studies acknowledge buildings as the material realization of abstract systems. The impact of economics on the practice of architecture is central to building students' knowledge about these invisible systems.

The strength of the DoArch pro-practice sequence is its networked flexibility, which advocates for the plurality of practice in a place steeped in singular, traditional practice models. Plurality of practice is evident in the connection between the professional practice sequence and the rest of the M.Arch curriculum (Figure 1). The DoArch curriculum,

however, does not place pro-practice classes at the service of other courses. These courses are not shuttled into an unimaginative pedagogical purgatory that holds theory and practice at opposing ends. Instead, each class stitches, connects, and proposes links between four curricular sequences: *Studio*, *Tech/Media*, *Seminar*, and *Pro-Practice*. In addition to the Public Works projects and hands-on Building Arts strategies, the prevailing DoArch pedagogy is especially reinforced in the last two graduate design studios, *ARCH 651: Passive House Studio* and *ARCH 652: Forensics Studio*, the most notable examples of intra-curricular connections.

The *Passive House Studio* positions the design and construction of a PHIUS-certified home in Brookings, SD – the first of its kind in the state. Passive House 01 (Figure 4) was designed by students in Fall 2016, through a grant from the South Dakota Governor's Office of Economic Development and completed in 2018. In 2019, the house won an AIASD Honor Award plus a special commendation from the AIASD chapter president. Through shared technical documentation, this graduate studio directly connects to both *Stewardship* and *Interiors*. Following this, students enroll in the *Forensics Studio*. The studio investigates a range of projects completed by leading architecture firms in South Dakota (Figure 5). During their last semester of study, students form teams and collaborate with one participating architecture firm to research the firm's methods of work and to unfold the critical workflows of the firm's practice. The work of the studio centers on making visual narratives from invisible and seemingly dull professional processes, making the practice of architecture in South Dakota the direct subject of students' work. This semester corresponds with *Management*, where students are tasked with lessons in project delivery, professional ethics, client relationships, building design teams, and more. The *Passive House* and *Forensics* studios expand the theoretical and practical positions articulated in the pro-practice sequence. The teaching methods differ from studio to seminar, offering a variety of faculty voices that speak to similar professional tasks and operations.

### CRITIQUE OF TRADITION AND SPECULATION

In the post-Civil War United States, architectural education echoed the Beaux Arts tradition of highly scripted architectural practices through the compositional techniques of drawing historic precedents. Supporters of this approach distinguished it from the theoretical aspects of the rational and systematized building sciences, which were categorically grouped within architecture curricula as pro-practice preparation. This division of knowledge separated educators and practitioners. In 1920, a committee of the Association of Collegiate Schools of Architecture (ACSA) was forced to explain the complimentary condition of theory and practice as an essential grounding for the education of an architect.<sup>6</sup> Pressures from inside and outside of the academy pushed architectural education away from fine arts and toward unification with building sciences. After World War II, architectural education and practice were increasingly standardized into a body of knowledge that reflected professionalism by combining scientific principles



Figure 4. DoArch Passive House 01 designed by M.Arch students and completed in Brookings, SD in 2018. Image Credit: Peter VonDeLinde.



Figure 5. Forensics Studio, *The Digital Client*, 500 years of disciplinary client/architect history intersected with the Media and Technology used to make design decisions about a Regional Science Center in Aberdeen, SD. Image Credit: DoArch M.Arch students Jacob Ricke and Riley Walz.

and business practices. Regulation, economics, and management emerged as grounding principles in pro-practice, a foundation further solidified through accreditation guidelines.

The establishment of the National Architectural Accrediting Board (NAAB) in 1939 stemmed from the combined efforts of the National Council of Architectural Registration (NCARB), the American Institute of Architects (AIA), and the ACSA to create uniform objectives within architectural education. Intentions swarmed around the production of professional, licensed architects who could safeguard the health, safety, and welfare of the general public. Though the academy remained responsible for this education, further training was to be provided through internship prior to the examination for licensure through the Architectural Experience Program (AXP, formerly the Intern Development Program or IDP) administered by NCARB. The role of the profession to provide internship training influenced the perceived role of professional practice in architectural education. Whether pro-practice courses should initiate training through technological and economic standards versus an education in the social and political dimension were prioritized over the potential of combined theory and practice objectives. Either way, homogeneity was amplified in the typical pro-practice course even as the NAAB student performance criteria expanded and increased.

The enduring dominance of the single, three-credit pro-practice course offered in countless NAAB accredited programs is tied to the historical distance between theory and practice. In an effort to address this space, many pro-practice courses are taught by adjuncts or professionals that find themselves at the periphery of faculty-led pedagogical positions. The traditional teaching purgatory of adjunct-led professional practice courses reinforces the separation between theory and practice and the studio-centered culture of architectural education, thus producing inconsistent teaching methodologies and missed opportunities to identify the rapidly changing methods of practice. Degree offerings, including The University of Minnesota's M.S. in Research Practices, and extracurricular programs, like the University of Wisconsin-Milwaukee's Externship Program, engage the critical space between theory and practice. In spite of thorough cross-curricular design, all of these programs continue to offer professional practice as a single, stand-alone requirement or elective courses.

It goes without saying that an essential requirement of the new department at SDSU was professional accreditation through NAAB. While DoArch quickly moved forward with its vision of a making-based studio culture, community design and outreach, the curriculum continued to be in flux, as each successive academic year meant the challenge of an entire lineup of newly written and offered courses. NAAB's *Realm D* was identified as an opportunity to combine traditional expectations of pro-practice courses with broader issues of theory, history, politics, urbanism, ethics, and economy. All provide examples that distinguish particular programs across the country, but are no longer significantly prioritized by NAAB. In addition, the small DoArch faculty (only seven in total) and intentional small student enrollment has limited the department's ability to "spread out" with narrowly

focused elective offerings commonly seen at larger schools. Finally, and arguably most importantly, the DoArch pro-practice sequence reintroduces and expands upon the foundational teaching of the beginning years of the program and is contextualized by projects in the advanced studios. This is seen in courses that expand upon relevant professional issues, including the profession's ethical and legal responsibilities in an underserved region, the investigation of project delivery methods, budgets and liability especially within a rural context, and identification of alternative perspectives and precedents for how architects define their societal role.

However successful DoArch has been in the ten years since it launched, architectural practice in South Dakota continues to operate in its long-defined and traditional way. It is unfair to be critical of the service firms in one region of the country versus another; the necessity, and seemingly vast majority of construction proceeds with little impact by architects. There are regional differences, almost like a regional dialect, that define the design and building culture of the state: a shortened construction calendar in a cold-climate, a heavy reliance on pre-fabrication, limited material palettes and building typologies. Service firms are dependent on volume and production, and prioritize the quantity of their work over the potential of exploration and invention. Their clientele expects both a predictable outcome and fee structure. Underbidding for work persists, driving down opportunities for smaller offices that may otherwise find room for exploration.

In Sioux Falls, an encouraging trend proceeds in the increase of small, design-focused offices. This trend is countered, however, by the arrival of large offices based in neighboring states. The original four firms responsible for DoArch's founding have remained medium-sized and are now challenged by the increased competition from the "design" side as well as the "corporate" side of the profession. The majority of local work remains service-based, with notable exceptions of some higher-profile "design" projects, and a resurgence and national recognition of Sioux Falls as an emerging "livable city" with renewed interest in its downtown. Significantly, the newly arrived larger firms now employ the greatest share of DoArch graduates. The threat to DoArch is not in its graduates searching for a place in the profession, but rather the reverse impact that the regional, corporate-sized profession will have on the program itself. The evolution of the DoArch curriculum, pedagogy, and especially its connection to the profession, one of its original charges and strengths, now enters its next generation. Like the majority of its larger, established neighboring schools (University of Minnesota, University of Nebraska, Iowa State University, and others), this naturally points to an increasing, and arguably healthier, relationship at arms-length with the profession. It also suggests that the DoArch pro-practice sequence is even more valuable and necessary as an alternative to tradition in this changing context. Teaching practice and theory as inseparable issues, framed in the voices of multiple faculty across four semesters of study, is vitally important in the face of an enormously scaled profession arriving for the first time in the region.

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**ENDNOTES**

1. Stan Allen, "Introduction: Practice vs. Project," in *Practice: Architecture, Technique + Representation*, Second Edition (New York: Routledge, 2009), XII-XIII.
2. Helene Furján, "Practice," in *Crib Sheets: Notes on the Contemporary Architectural Conversation*, ed. Sylvia Lavin, Helene Furján, and Penelope Dean (New York: Monacelli Press, 2005), 30.
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