AGENCY IN THE EDUCATION OF AN ARCHITECT: MODELS OF ENGAGEMENT TOWARD EMPOWERING STUDENTS

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ABSTRACT

The disparity between education and practice continues to dominate academic discourse, but oftentimes forgotten is the impact that agency plays in architectural education and, in turn, a student's presence and contributions within the future of the built environment. Integrating a haptic and tangible process with easily recognizable social implications alongside traditional didactic models in architectural education engenders a sense of empowerment and obligation to a larger social authority. How might agency drive the education of an architect? In addition to teaching technical skills, how might academia address the methods to develop students' skill sets working with and through local and political actors?

Implemented as an experimental design-build course, the intention is to enable students to apply their understanding of the design thinking process and knowledge of architectural principles in their community. The specific course that is the case study engages students across a variety of levels outside their comfort zone through collaborating with departments, administrators, and stakeholders to truly understand the inner workings of a project at the scale of a community. The outcomes, presented through a case study of an experimental course, further exemplify how architecture students employ the concepts of environmental psychology and participatory planning in action, within the context of a semester-long design-build, to create a more integrated user-driven approach to architectural education.

Leveraging the next generation of thinkers by empowering them to apply their skills for the betterment of society is critical to the future. In cultivating experiences that empower students, it is imperative to recognize each student's ability to impact the built environment, further establishing the basis of their responsibility as a designer through developing a sense of collective agency in their design education. Therefore, not only addressing but actively pursuing engagement in the context of their education transforms their academic experience from a passive learner to an active participant.

Keywords: Agency, Community Engagement, Design-Build, Experiential Learning, Participatory Planning, Pedagogy

1. INTRODUCTION

In the education of a designer, courses tend to land somewhere on a spectrum between strengthening technical proficiency and developing design sensibility. Opportunities for

students to connect their technical proficiencies on paper with the act of physically making provides an invaluable experience to gain insights on material properties, enlightening the design student in the tactile problem-solving nature of the construction site that their drawings must ultimately confront in the profession. When driven by the needs of the community, contextually their built work exists within the larger ecosystem of the local framework. By addressing architecture as a method of interdisciplinary collaboration, there are many opportunities to gain a more holistic understanding of community dynamics and the establishment of place attachment, sense of community, and social capital (Manzo and Perkins 2006, 347). Many aspects of public life lie outside of the expertise of designers and architects. With the vast scales that the profession demands, drawing from these different aspects is imperative to developing user-driven proposals.

1.1 CONTEXT

Traditionally, a design brief proposes a site and program from which students respond with an architectural proposal, often without a defined user group. These projects are highly individual, receiving feedback along the way from faculty members or invited professionals critiquing the design. This approach is problematic, as it idealizes the architect as the sole decision maker who must make assumptions about both the users and their needs without firsthand knowledge. Despite the intended user at the onset of the project, the structure of the design studio inherently creates a triad between student, professor, and brief. The model often interchangeably and incorrectly utilizes the fictitious roles of client, professor, user, designer, and critic throughout the design process. This further perpetuates the tendency for architects to latently design an ideal environment for themselves or the “client” without thinking more specifically about the variety of user groups that populate a space. The designation of an “average user” becomes problematic as the needs of entire groups are generalized with inaccurate assumptions. Throughout the design studio, communication of design ideas is conveyed primarily through presentations seeking approval and feedback from knowledgeable professionals typically in the field of architecture. In contrast, the profession requires architects to communicate graphically, verbally, and in writing to diverse audiences to execute a project.

To strengthen the intersection between technology and social impact, Applied Digital Media, an elective course offered at the Marywood School of Architecture, has been framed around a community design-build project. Contrary to a typical studio course, this design-build course offers interdisciplinary engagement that leverages the design student as a facilitator between a diverse set of actors. To supplement the students’ impeccable design sensibility and ripe technical skills drawn from their prior courses, participatory planning and environmental psychology are studied throughout the course, establishing an atmosphere and attitude that drives the collective process. Beyond the physical building context that planners work within, the social context that includes institutions and systems that operate in an area are equally important (Churchman 2002, 193). Environmental psychology is essential to this course, providing insights into the movements and motivations of users by studying beyond the physically built environment. In particular, the platform of participatory planning is a framework for creating an environment in which the motivations of different groups are better understood. The creation of spaces that “offer opportunities for social interaction amongst people from different social backgrounds” is invaluable to acceptance in communities (Lees 2008, 2464). The very act of participatory planning is a mechanism for these types of social interactions to occur, in addition to the integration of more informed

public spaces. As Churchman states, “the movement in planning towards more participatory and empowering decision-making processes is a very positive step in the direction of accommodating the needs and preferences of different groups of people” (2002, 198). This shift in the approach to design education brings to light the potential of both physical and social manifestations that result from the haptic process of engagement at various scales to achieve social impact.

An elective course that follows the completion of two introductory Digital Media courses, the purpose of this course is to extend students’ skill sets acquired in studio and other courses to design and build an inhabitable structure. This tactile approach to Applied Digital Media was introduced in the spring of 2019, posing to the students a community-driven design-build. The students and community had to navigate where their construct, ephemeral in nature, would fall as a local intervention. For inspiration they looked to follies, installations, and pavilions of a similar scale (Figure 1). Through the duration of this course, students explore how innovative utilization of digital tools has the power to transform representation in the field of design, framing representation as a means to effectively communicate design ideas with the intent to open the conversation and engage a broader audience in the design process. Both two-dimensional and three-dimensional means of making, an emphasis given to workflow, refined applications of digital tools, and knowledge sharing create the framework that allows the students to dive into this experimental environment. Students then explore the application of various technological tools for fabrication and representation along the way as a mechanism to facilitate participation.

Figure 1: Renderings to communicate the opportunity of occupying local sites with design interventions and the intent over time
(Left image by Kim Hagan; right image by Kevin Bendel)

2. NEGOTIATING RELATIONSHIPS

Focusing on design interventions that value local and professional expertise, students are challenged to embark on learning through creative problem-solving. A service-learning lens permeates the course, and perhaps the most unique outcome is the creation of relationships with the community through engagement with a variety of stakeholders in the design process. By forming these relationships, students are able to understand the responsibility of design beyond a fixed academic prompt and its role in shaping communities and impacting people. Therefore, the instruction of this type of learning experience is required to encourage experimentation and exploration to allow for breakthroughs unknown at the onset of the project. The role of the instructor is to be agile, guiding students to

experts when appropriate but ultimately allowing students to discern as a team the broader contextual, formal, spatial, and fabrication questions at their own discretion. Agency emerges when the ownership of the project and process is shifted to the students. Without the instructor as a mediator, the students must become directly engaged with the variety of stakeholders. When this relationship becomes symbiotic, the students obtain the intended course experience.

Opportunities for engagement in the design-and-build process allow insights about the diverse stakeholders to be constructively utilized. These differences include their variety of needs, motivations, and relationships with public space. Manzo and Perkins state that "it is essential for those working in community improvement and planning to better understand those emotional connections to place, how they are fostered, and how they might lead to action and effective participatory planning processes" (2006, 348). Although the students are a part of the community, they are only one user type among a myriad of people in the area. For the students, working directly with the community forces them to be engaged at the micro level, understanding the specific stories of locals and paying particular attention to the ways that design might respond. Students can learn from these interactions as they synthesize the challenges and opportunities presented. Some of their findings included stories of the history of a particular development in the area, proposed site locations, collaborator contact information, and usage mapping. Through these interactions, students came to understand that their initial qualitative analysis was based on their own assumptions, and this realization opened their minds to ways of interpreting and using the space. Working together as a group and conveying their collective design ideas to nondesigners present representation challenges the students must navigate to effectively communicate. There are benefits for both the stakeholders and the designers as they begin to understand and brainstorm the planning of their community together.

For the stakeholders, this engagement in the process can be an empowering experience as they identify an actionable process and platform through which to contribute. The nature of the process requires the community members and designers to consider the problem beyond their immediate assumptions and become empathetic to the stakeholders and users alike. Through the iterative process, community members can take ownership of their solutions while also working together to grasp the most important aspects of the problem and how they should be addressed. Just as the process relies on relationships with stakeholders, it is also important that the structure cultivates an environment where each contributor is a member of the team working toward a greater goal together. To do this, the course is planned keeping in mind an internal structure and an external framework within which all aspects of the project must come together. The internal structure simulates that of the inner workings of an architectural office (the various roles, tasks, and responsibilities shared among a team), while the external framework simulates that of the working of a project (navigating contractors, client, owner, and user).

3. INTERNAL STRUCTURE

The internal structure of the team relies on assembling a variety of diverse students across different experience levels (second through fifth year). Approximately eight to twelve students were considered optimal for everyone to have a role in the design process and final product, while maintaining a large enough group to accomplish a substantial project within a tight timeframe. The diversity of student experience levels facilitates a fruitful learning

environment within the internal structure, providing a variety of meaningful contributions to the process and project management roles that the students undertake as a team. Organization and internal coherence allow for external feedback and expertise to be incorporated along the way.

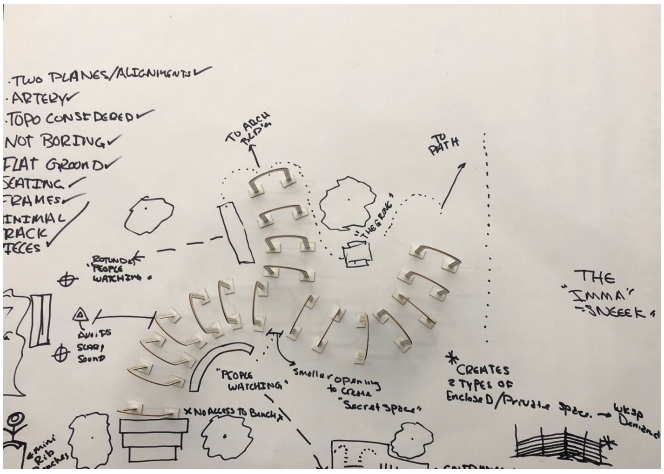

Figure 2: Working through prevailing design qualities (Photo by Michelle Pannone)

3.1 Process

The course is structured by three primary phases that do not always span a linear process. DESIGN | TEST | BUILD frames an investigative process throughout the semester focusing on an iterative approach to address both social and physical structures in the public realm. Precedents are used throughout each phase as another method of communication among the students and with the stakeholders. Given the short, one-semester timeline of the project, many aspects of the process occur simultaneously. Sometimes the final graphics are still under way during the build phase. One aspect of the design may be complete in advance of other details and head into fabrication due to a longer lead time on materials or access to machinery.

To kick-start the process, students began the first week working on their own, which is what they were most accustomed to. They each proposed areas of opportunity and potential ideas that could drive a future intervention. Quickly the students were put into pairs with classmates that had chosen either similar potential site locations or design strategies. During the third phase, they were put into small groups of three to four students to work together on a draft proposal that would convey the potential scale of the project during their first interactions with stakeholders just a few weeks into the process. Throughout each iteration, the intent and formal ideas began to emerge. Through a series of conversations, presentations, and brainstorming sessions, prevailing components from the ideas began to merge, forming the final design proposal as a product of their design sensibility paired with the engagement with the stakeholders (Figure 2). From this point forward, the testing phase commenced as the design phase continued to be explored with engagement from the community. Most of the material, structural, and fabrication knowledge was gained through the testing phase. Students were encouraged to take on a material scale and test the fabrication methods. The approach is open minded, the only rule being that nothing could be built if it had not been properly tested full scale in some

capacity. Full-scale mock-ups such as the one seen in Figure 3 invited passersby to provide feedback quite naturally. Similarly, as the building process began, it was common for someone to walk by and ask what was going on. After chatting with those working for some time, often they would ask when it would be finished, and the students would invite them to join the process.

Figure 3: Discussing mock-up with a visiting professional (Photo by Michelle Pannone)

3.2 Project Management

Project management roles commenced once the students had gotten to know one another and become acquainted with their common goals for the project. The roles consisted of Fabrication Coordinators, Documentation Coordinators, Outreach Coordinators, and Material Coordinators. Each week, as a group, they would review what had been done the prior week and delegate goals for the current week (Figure 4). The handoff and communication among peers and with professionals (obtaining quotes, ordering materials, and verifying drawings), along with working toward a unified budget and schedule, are tasks that students may not previously have realized are critical components within the scope of being an architect.

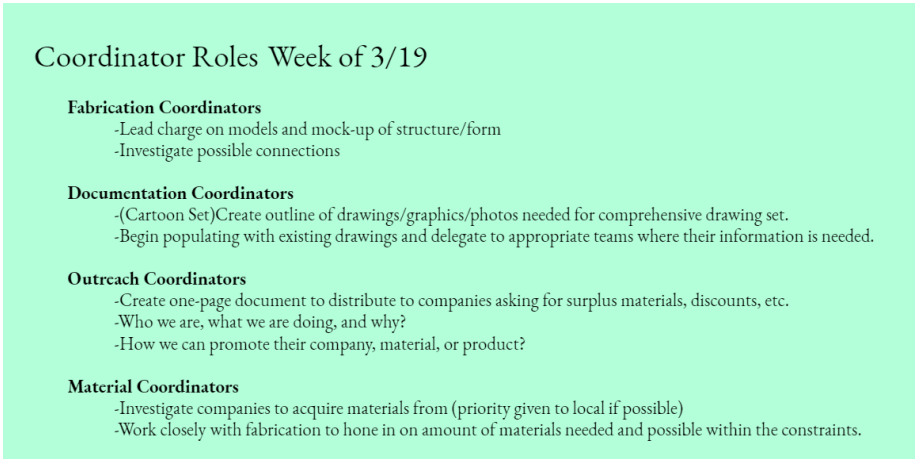

Figure 4: Example of weekly delegated goals (Image by Michelle Pannone)

3.3 Internal Structure Reflection

The students tend to be the most comfortable during the initial design phase and warm up quickly to the pairing and grouping of design ideas as the process continues. All the pairing and grouping were done through a team consensus that resulted from discussing the design intent, strengths, and areas of opportunity. The most pushback was received during the testing phase, as the students had never been required to physically build out an idea they had proposed and have it be validated by the entire team. They would often come in small groups with a drawing and propose ordering all the materials to go forward with that fabrication method for the final construct. By the end of the project, they began to arrive at Open Studio sessions with their mock-up of the proposal and often found that team members provided valuable feedback on how to improve the strength or aesthetic qualities of the design. This collaborative nature of the project allowed students from different years to work together, harnessing their individual strengths while striving toward a common goal. They took ownership of the project quickly as they creatively problem-solved and made progress throughout the semester. As the testing and building phases began to blend together, the students had established confidence and excitement in anticipation of the final product, developing their sense of agency as designers. The Coordinator roles helped delegate tasks, but there was significant overlap when decisions were also made to level out the workload among team members. The internal structure was imperative to effectively communicate and integrate external feedback and expertise throughout the process.

4. EXTERNAL FRAMEWORK

The challenges in this course ranged from the large-scale impact on the community and integration of their feedback along the way to the small-scale details and specific means of fabrication to execute the build. The external framework primarily focuses on two main thematic areas: technical expertise and local expertise. Technical expertise is integrated in the course through consultation with industry professionals, and local expertise is gained through the collaboration with potential users. While the instructor of the course leads the charge on integrating industry professionals to consult throughout the project, the students are tasked with facilitating the integration of local expertise.

4.1 Engagement with the Profession

Relationships with professionals centered around three main areas: advice on project delivery, technological expertise, and fabrication methods. These interactions occurred in different capacities depending upon availability, location, and project needs and were guided primarily by the instructor. Throughout the course, local professionals joined Open Sessions, sharing the work of their firm, the integration of digital tools in their work, and providing an open discussion with the team. The industry professionals were often incredibly curious about the work of the students and followed up on their progress along the way, providing moments of mentorship in the execution of a built intervention. As the project continued, the needs became more specific to material qualities and fabrication methods. This required the students to reach out to manufacturers, share drawings to communicate their intent, and obtain quotes. Through these types of interactions with the professionals, students gained communication skills, articulated their intent, asked for the expertise of others, and ultimately understood some of the behind-the-scenes work necessary to execute

a full-scale project. The professionals provided valuable insights to the project while also mentoring the students and gaining an understanding of local opportunities to share their expertise with the community.

4.2 Engagement with the Community

The power of the process lies in establishing an environment where potential users become more than just a public opinion but are integral to the design process. To facilitate this, there must be both a framework to share knowledge in addition to opportunities to directly engage with the project. This has been done in the following ways: Community Workshop, updates through posters and newsletter, and consistent Open Studio and Build Sessions.

A Community Workshop at the beginning of the semester kicked off the project. Locals, students, faculty, and administrators were invited to imagine the future of nearby public spaces (Figure 5). This began the conversation and established points of contact.

Figure 5: Community Workshop in action (Photo by Michelle Pannone)

Following the Community Workshop, newsletter updates and posters were used as a method to post progress and communicate broadly with the community. Open Studios twice a week were accessible to the public as a time to work together. It was important that those interested in contributing had a consistent time when they knew people would be working on the project. After the design had been realized, Build Sessions (Figure 6) offered the opportunity to learn about the technology used to fabricate and assemble the structure. At this stage in the process, most of the learning is conveyed through skill sharing that occurs quite naturally in an effort to work toward the final product together. As they transfer skills and expertise in the fabrication method, they continue to take ownership of the project and their contributions to the team.

Figure 6: Open Studio painting session hosted by the Material Coordinator team (Photo by Michelle Pannone)

Figure 7: Placing the final touches (Photo by Michelle Pannone)

Some participants were involved throughout all phases of the project, while others were interested in a particular aspect of the project. Providing a framework for engagement gave the stakeholders the freedom to participate as they wanted to and according to their interests, as they knew exactly when and where there would be an opportunity to join the

process. At the conclusion, not only have the students and community members seen their design proposals come to fruition (Figure 7) but with testing and feedback they have acquired a new process to address problems in the future. The students' firsthand experience of engaging with the community revealed that inclusivity in design is achieved through the direct involvement of stakeholders in the process. Through experiential learning, students gained an understanding of the important role of collaboration in the design process to achieve socially responsible design.

4.3 External Framework Reflection

The students' integration and engagement with the profession and community instilled leadership qualities while simultaneously teaching them intricate aspects of the process required to execute a built project. The students, hesitant at first, gained valuable experience on aspects of project management that included reaching out for expertise through mentorship and consultants along the way. Although the students hoped that they would develop a final design out of the Community Workshop, they instead discovered shared values and latent needs of the community and areas of opportunity begging for intervention. It was evident that the students were empowered by these interactions as they pushed themselves to learn the correct questions to ask instead of the answers they had initially thought they would find. They learned methods to bring stakeholders together and communicate with a diverse audience while leveraging their design thinking skills to incorporate a broad set of voices into the process. The students were instilled with a sense of agency as designers through not only designing solutions but also contextualizing them, solving the puzzle piece by piece by communicating with stakeholders throughout the process. Effective leaders bring people and ideas together to creatively problem-solve with the necessary voices and resources to mitigate them. The success of student leaders is a direct result of the instructor's ability to create and embody a culture that instills the role of a socially responsible architect on the students.

5. CONCLUSIONS AND FUTURE WORK

Through this hands-on course, students extended skills taught in the studio to serve the greater community by engaging campus and local stakeholders in the design process. This included challenging appropriate representation techniques for a variety of audiences to convey the evolving design intent. In the end, students established an understanding between digital craft and built precisions, all with the outcome of transforming an underutilized space in the community.

Effective designers must be strong in a variety of skills tangential to the formal design of buildings, objects, and spaces. Ensuring that the design satisfies the needs not just of a generic user but of a variety of authentic stakeholders requires a broader skill set. To holistically design, one must be able to communicate effectively with other designers and nondesigners; one must operate under a deadline and a budget; one must construct not only on paper or as a model, but at full scale and from tangible materials; one must be considerate of a variety of voices and understand that design is an inclusive process, not an end goal. In traditional design curricula, students very often operate individually and make biased or idealistic assumptions about a theoretical program and site. Although there are important aspects to these curricula, such as developing formal design sensibility, without

the integration of experiential learning opportunities, they do a disservice to the collaborative nature of the discipline and how built work is typically executed.

The most effective way for the next generation of designers to learn this skill set is to gain firsthand experience engaging with and alongside the community while working together as a team with guidance from professionals. The Applied Digital Media course provides students an opportunity to apply their design sensibility and technical knowledge to a community design-build project, allowing them to gain this experience. This course exposes students to processes more closely aligned with the profession by working alongside the community and a variety of stakeholders, ultimately granting students agency in the process that they are not inherently afforded in the traditional curriculum.

Community design-build experiences require a tremendous amount of work from both the student and the faculty perspective for a three-credit elective course; however, when offered outside of a required sequence, this course may attract students of varying levels who are truly interested in the course goals. Through experiential learning, the instructor has the freedom to address broader curricular goals through the lens of engagement, inviting professionals and community members to contribute firsthand. This removes the problem of needing to achieve specific technical requirements in the course content that may drive the formal outcome of the project. Future models could include a two-part elective course spanning both fall and spring semesters and maintaining the same cohort of students.

Early in the project, following the Community Workshop, the students developed an incredible amount of agency through discussing the potential of the site beyond this semester and creating a framework to continue to develop the course in future semesters. Sessions would extend long beyond their planned times, as the students were eager to stay late and discuss models to engage additional stakeholders, find financial support, and refine a more seamless process. At this pivotal moment, the students recognized the impact they have the potential to make in their future projects and careers by bringing their creative problem-solving skills, harnessed in their design education, to the forefront of the community (Figure 8).

Figure 8: Typical community encounters (Photo by Michelle Pannone)

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