

Exchanging Projects: Matchmaking in the Architecture Studio

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In this paper, I briefly outline the characteristics of an instructional model for “project exchange” in the architecture studio.

INTRODUCTION

This paper describes background research and pedagogical experiments leading to a small-scale activity offered to conference participants at the ACSA 2019 Fall Conference. Generally, the research, experiments, and culminating activity are focused in the area of architecture studio pedagogy, and in particular, on the complementary tasks of defining a *normative model* for American studio education while simultaneously proposing a specific challenge to the model. Among the many assumptions associated with what I am calling the normative model, rarely articulated is the assumption that student projects exist in a 1:1 relationship with students, i. e., that each student in the studio is responsible for a single project, and that given any single project, an individual student can be associated with it. Apart from isolated experiments, I find that this assumption remains systematically unchallenged in the literature. My purpose, then, in sharing my work is to expand discussion of this assumption’s pervasiveness and possible effects of calling it into question. In this context I offer this discussion simply as a provocation inviting new questions.

Briefly, the challenge I propose takes the form of an instructional model involving the managed exchange of student projects at one or more points during a studio’s term. The notion of project exchange is understood here as distinct from *group projects* or *team projects* in which two or more students contribute jointly and concurrently to a project’s development. In the exchange model as I propose it, individual students retain individual responsibility for individual projects, but this responsibility shifts from one project to another at least once during the term.

I have informally tested the project exchange instructional model at two different institutions, at both undergraduate and graduate levels, most recently at the University of Minnesota where the context was my section of the Integrative Design studio in the School of Architecture’s professional M. Arch. program.

GENERAL BACKGROUND

The gradual evolution of pedagogical practices contributing to what I refer to here as the normative model of American architecture studio education is discussed extensively elsewhere. The model is conventionally traced to the early influence of the *École des Beaux-Arts* and accounts for later influence by Bauhaus educators in the United States, acknowledging significant influence by educators and researchers including Dewey and Schon. Sarah Kuhn, writing as a social scientist reflecting on her research into architecture studio education, provides a concise summary of what I am calling the normative model, i. e., “an American adaptation of the atelier-based training at the *Ecole des Beaux-Arts*.” Kuhn’s summary includes several characteristic features, as paraphrased in Table 1.

1	the organization of student work into semester-length projects
2	student work positioned as response to complex and open-ended assignments
3	rapid proliferation of iterations, i. e., possible responses to a “design problem”
4	frequent critique organized informally and formally, incorporating faculty, peer, and outside-expert voices
5	incorporation of heterogeneous range of issues (e. g., structural integrity, social impact)
6	study of precedent
7	faculty guidance, particularly concerning the imposition of constraints
8	situationally appropriate use of design media

Table 1. Kuhn’s summary of characteristic studio features.

Although each of these characteristic features is susceptible to pedagogical inquiry and challenge, my work is primarily focused on inquiry into the form of critique (item 4 in Table 1) as a point of inflection. In their extensive review, authors Oh, Ishizaki, Gross, and Do summarize the forms of critique typically present in the American architecture studio, generally discerning the forms summarized in Table 2.

form of critique	characteristics	primary aims
desk crit	critique involving a single instructor and a single student; often held at a student's desk	monitoring and guiding a student's progress
group crit	critique engaging a small group of 4-6 students; aimed at	providing an opportunity for students to see each other's work in progress
interim review	critique involving the entire class at key milestones	having all students benefit from sharing progress and knowledge
formal review	an event with the character of ceremony or ritual, involving the entire class as well as a "jury" of critics	assessment of each student's performance over the duration of the course
informal interaction	casual overhearing of comments or critiques; peer instruction	benefiting from peer interaction

Table 2. Forms of critique (after Oh, Ishizaki, Gross, and Do).

Review of the literature suggests that a particular foundational assumption, essential to the operation of the normative model, is rarely stated explicitly and is even more rarely challenged. Quite simply, that assumption is that projects produced in the studio are recognized and understood by all constituents as the intellectual and creative property of individual students, rather than as something resembling a collective work product representing the combined or overlapping effort of distinct sources of inspiration and direction. This assumption – entirely consistent with historical practices and assumptions in the Beaux-Arts model as well as in the Bauhaus – exists at the basis of much of contemporary American studio pedagogy. Of course, studio projects that are explicitly formulated as group or team projects constitute a significant and meaningful exception. For example, design-build studio pedagogies, primarily due to their complexities of scale and size, often demand collaborative effort simply as a means of making progress in an all-too-limited time. Similarly, research-centered pedagogies in which small teams of students work on short-duration “precedent studies” or on full-semester research projects (e. g., community planning; visioning efforts) also constitute exceptions to the normative practice of 1:1 student-to-project relationships.

The 2002 report on studio culture prepared for the American Institute of Architecture Students cites several “myths” associated with the architecture studio, including the idea that “[t]he creation of architecture should be a solo, artistic struggle” and that “[c]ollaboration with other students means giving up

the best ideas.” These myths persist in what I consider the normative model for studio education, and it is in this context that I seek a specific alternative. Ultimately, my motivation for engaging in pedagogical experiments and the associated background research stems from my desire to shift normative studio pedagogy away from entrenched practices of ownership, defense, and formal presentation. In place of these practices, I seek to emphasize notions of collective ownership, collaboration, and informal conversation. At a somewhat broader level, I hope to suggest the value of shifting the design studio away from its historically-grounded focus on educating expert designers, and towards an environment aimed primarily at making the best use of existing resources, specifically including existing buildings. My approach therefore assumes that the task of learning to see the environment is in some way necessary or even foundational to the task of learning to intervene upon or within the environment. My goal, then, is not to advocate a wholesale change in studio pedagogy, but rather to incrementally shift the conversation.

DESCRIPTION OF THE INSTRUCTIONAL MODEL

Although the project exchange instructional model is scalable, in that it can be implemented over distinct time frames (as short as three weeks and as long as a semester, or possibly two), several characteristic items remain constant irrespective of the total time allotted to the studio, as discussed below.

As I have taught the studio in previous iterations, I schedule and announce in advance several review dates regularly throughout the term (e. g., every three weeks for a semester-long iteration, every two weeks for a half-semester, or every week for a shorter iteration). I inform the students at the beginning of the term that I intend the reviews as participatory events during which they are expected to collectively determine a shift of project ownership responsibilities. In other words, at each review, I expect each student in the studio to effectively transfer individual ownership of their project to another student in the studio. To emphasize its pedagogical importance, I present the instructional model to the students in full transparency on day one of the term.

The precise mechanism of exchange can vary, and depending on students’ willingness to experiment, it is not unusual for two or three different methods to be tested during a single term. Because the students are aware of the upcoming exchange, they may decide to strategize with each other in advance to determine optimal trades, or they may elect to abandon themselves to the possibilities of engaging a new project selected at random.

Once ownership is transferred, the student who originated a project moves on to new responsibilities, although they may elect to remain involved in the project’s future development (e. g., by participating in small-group critiques with the new owner of their old project). The new owner of a project

becomes responsible for its development: if challenged to explain or justify a design move taken by their predecessor, they may elect to defend it, or to alter the project in response, but they cannot avoid the responsibility that comes with ownership.

The exchange has both spatial and temporal implications that differentiate it from the normative model. In particular, the normative model includes a juried review, wherein each student takes a turn presenting their work to a panel of experts, over a period lasting anywhere from five to forty minutes, followed by comments and discussion. Students may be paired, presenting in quick succession, and the jury's comments shared between the pair. By contrast, in the project exchange model, I ask all of the students to exhibit their projects simultaneously, typically in an open and public assembly space.

OWNERSHIP OF PROJECTS AS DISTINCT FROM THE NORMATIVE MODEL

The project exchange model certainly prompts critical questions of ownership. As I and my collaborators have noted elsewhere, questions of ownership and authority are bound up with larger questions of legitimacy, both at the scale of individual artifacts (e. g., physical models) and at the scale of the project as a whole. Yet, questions of authority and legitimacy are not absent from the normative studio, they are simply not foregrounded there to the degree that the project exchange model seeks to do.

TIMING AS DISTINCT FROM THE NORMATIVE MODEL

Long-standing models for architecture studio assume that students are engaged in extended periods of individual project development, punctuated by face-to-face desk crits and followed by whole-group reviews, e. g., at the midterm or final. In the project exchange model, the timing is accelerated: typically, only two or three weeks elapse between whole-group reviews. By the midpoint of a typical semester in the project exchange model, each of the studio projects is the result of the work of at least three students, each of whom has held responsibility for a short time before exchanging the project with a colleague.

FORM OF CRITIQUE AS DISTINCT FROM THE NORMATIVE MODEL

The normative model for studio assumes the primacy of desk crits. In the project exchange model, desk crits are not conducted; all critiques are structured instead as small-group meetings. If a lone student approaches me with a question, I simply insist that another student be present for the discussion, and I make every effort to structure the discussion as a minimally guided conversation between students, rather than to position myself in any way as an ultimate or infallible source of knowledge.

PURPOSE OF CRITIQUE AS DISTINCT FROM THE NORMATIVE MODEL

The normative model assumes that the critique is aimed, ultimately, at improving individual students' abilities as architectural designers. This happens in two ways. In the desk crit, the instructor works with the student, guiding their decision process through sustained, focused attention. In the formal review (e. g., interim or final), student projects are placed on defense in front of a jury consisting of experts and peers. By contrast, in the projects exchange model, the aim of the critique is explicitly to improve students' abilities to act collectively in a manner that reinforces both their individual contribution and the importance of the whole. Individual projects are not reviewed in a traditional sense. Instead, the whole-group review is an opportunity for students to exchange projects with each other. Critique simply arises out of necessity at the moment of exchange: students collectively discuss the relative merits of projects, and they decide collectively how the projects should be assigned.

PROJECT OWNERSHIP AS DISTINCT FROM THE NORMATIVE MODEL

Perhaps as a consequence of its focus on assigning new ownership to projects, discussion at the project exchange review tends to be future-focused, i. e., on the question of "what comes next," rather than on questions of rationalization, justification, and signification, i. e. "why" a certain decision was taken or "why" a project assumes a particular form. Instead of the "why" questions familiar within the context of the normative studio, typical questions asked at the project exchange review include "What makes you want to take on this project?" or "What is the first thing you intend to change about this project?"

Although the parallel between the project exchange instructional model and practices in professional architectural design offices is not coincidental, it is not the model's primary justification. Just as in an office context, a project may pass from the responsibility of one individual to another over the course of its development lifespan; the moments of responsibility transfer can, in the studio as well as in the office, become intense opportunities for conversation and the questioning of assumptions; despite this, I don't purposefully position the studio as a small-scale version of professional practice.

EXPERIENCE AT THE CONFERENCE

Consistent with the conference's Call to Action, which asked paper authors to include a specific statement of intention for engaging conference attendees, I led an experience for conference attendees to test the instructional model in real time, at reduced scale. This experience consisted of my brief verbal introduction of the model, its background, and its motivations to a small group of attendees, followed by a two-part, rapid, paper-based design exercise.

To begin the exercise, I provided each participant with printed samples of midstream design/analysis exercises drawn from in-process work carried out by my incoming graduate students at the University of Minnesota (Figure 1). I provided tracing paper and pens, and asked each participant to respond to the work samples given to them. I provided no other context and no explicit instruction to participants other than that they should graphically identify, through tracing, the samples' relative strengths as designs.

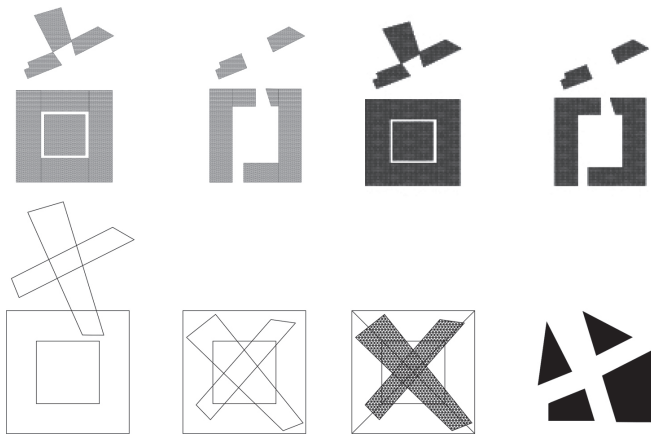


Figure 1: In-process student work.

I then asked the participants to exchange work with each other: specifically, each participant passed their work to the participant seated on their left, such that everyone present exchanged their in-process work with someone else. The charge for the next part of the experience was the same: simply that each participant should, through tracing, develop the work in front of them. The results are shown in figures 2 and 3. In this way, the activity simulated (on a much-reduced scale) a critical component of the process at play in the studio, that is, the need for students to be productive in response to in-process, midstream work. Due to time limitations, I did not attempt to simulate the negotiation and discussion central to the functioning of the exchange review, although our group engaged in substantive follow-up discussion.

Following the posting of work on the whiteboard (figure 4), I asked the participants to briefly share their experiences, criticisms, questions, and suggestions. The first question concerned the limitations of media I placed on the students in the studio environment, i. e., given that the students are expected to exchange projects with each other, do I enforce specific requirements for base documentation at the moment of exchange? Having informally tested this in two ways (both with and without a requirement for such documentation), I briefly described what I understand to be the advantages and disadvantages of either approach. For undergraduates in particular, a requirement to maintain a consistent set of base

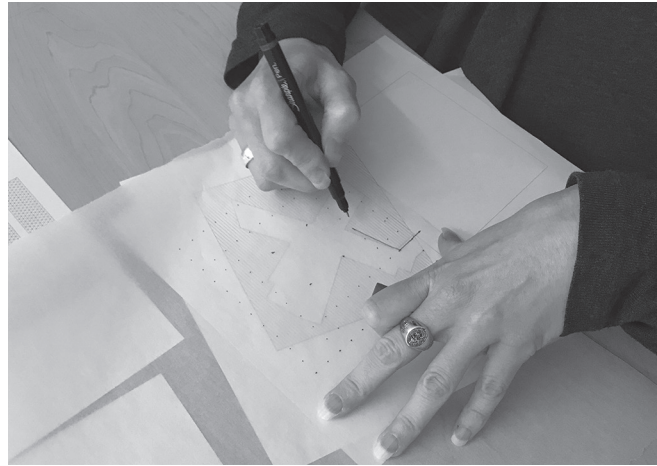


Figure 2: Conference activity.

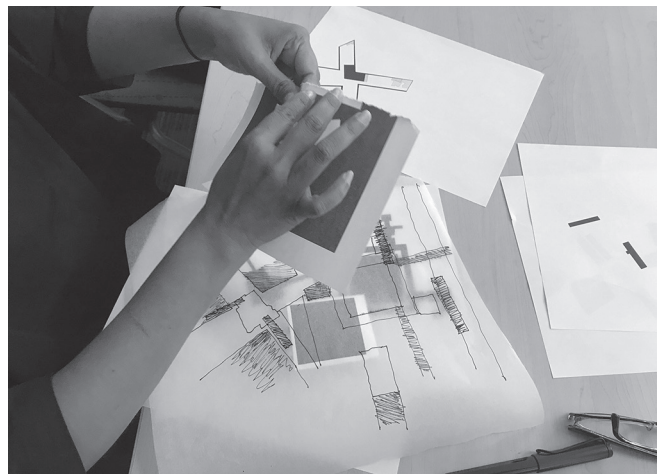


Figure 3: Conference activity.

drawings (e. g., plans and sections at a proscribed scale) can provide both a helpful guide for students in estimating their workload, as well as a consistent and easily legible starting point for their subsequent iterative development.

Next, building on the previous discussion, a participant asked how and whether I guide the students with respect to software – more specifically, do I give the students specific limits on the specific software applications they can use to support the act of exchange. I noted that in my experience I had seen both undergraduate and graduate students benefit from a consistent expectation for uniformly legible digital artifacts, e. g., digital models completed using a proscribed software application such as Rhino or Revit. However, I added that my omitting to require the use of any one specific software application to produce an across-the-studio consistency in digital documentation has the effect of foregrounding translation as both practically and conceptually critical, as for example when a student fluent in the use of Revit is confronted with a Rhino

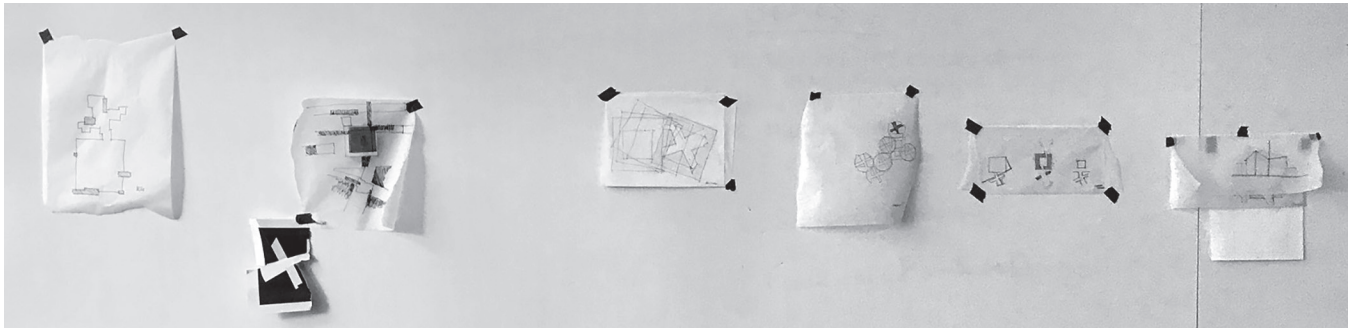


Figure 4: Results of conference activity.

model. In such situations, the question of assuming ownership of the project center specifically on the changes that inevitably occur in its conception as its geometry (and possibly its internally significant parameters) are translated from one software application to another.

A third participant asked about the relevance and implementation of NAAB (accreditation) criteria. Specifically, if the project exchange model assumes that each student has a unique contribution to make to the “whole” of a developing project, how can the resulting studio work fairly be understood as evidence of all students’ understandings and abilities, with respect to stated criteria? In response, I stated that as an instructor subject to specific external criteria – whether driven by accreditation or curricular content agreements reached by the faculty – I am responsible for managing the process to the extent that I can ensure that each student is exposed to necessary areas of focus. For example, I can assign the students to work concurrently on a common, shared area of focus (e. g., compliance with egress requirements). Then, following an exchange, I can reassign them to work on a different area of focus. In this way, all of the students in the studio will work on the same focus area at the same time, and collectively, they will pointedly address evidentiary criteria in a specific order. I further stated that I do not see it as problematic that each student addresses each criterion, or set of criteria, through the lens of several projects rather than in a single project: in the project exchange instructional model, each student necessarily develops experience integrating several criteria within a project, just as they would if their responsibility was limited to a single project. Being required to address the question of cross-criterion integration over two or three projects in turn is, arguably, both more challenging to the students (compared to a normative approach) as well as more accurately representative of a situation likely to be encountered in a professional office environment.

Next, a participant asked about the possibility of extending the exchange over two semesters. Unfortunately, I have not yet had the opportunity to test the instructional model over a time period longer than a single semester, but I believe it to be scalable in this sense.

Finally, a participant asked a question concerning assessment, suggesting the difficulty of assessing or evaluating the projects given that each project represents the collective contributions of two or more students. Of course, accurate and fair assessment is a persistent concern in studio pedagogy, and students’ interest in the grading outcome is no less acute in the project exchange model than within the normative studio model. In brief, my approach to assessment – irrespective of the particular pedagogy – is to assess the collection of individual artifacts that students make in support of their design process (e. g., drawings and models). Consequently, in assessment, I place no special emphasis on the “final” iteration of a project: I examine the collection of artifacts as a whole in determination of individual grades. The critical point is that students make artifacts to develop ideas irrespective of whether the idea originated with themselves or with another student. So while a given student’s collection of artifacts is key to assessment, I do not evaluate or assess the project as a whole. Individual artifacts – specific plans, sections, digital models, etc. – are assessed both as individual artifacts and collectively as a group, as evidence of a given student’s ability to think productively and to develop ideas – once again, irrespective of whether the given student originated the ideas under development.

CONCLUSIONS

A central question persists, namely, what the relationships are between the project exchange model and the practices typical of the professional architect’s office. In his essay on the “Project Swap,” Crosbie describes a studio exercise in which students are asked to exchange projects at a late point within the term. Unlike the instructional model I propose, Crosbie’s approach does not provide the students with foreknowledge about the swap, i. e., they are not aware of the impending switch until the moment it is announced in studio. Crosbie’s approach surely parallels dimensions of professional practice when office staff are reassigned, without notice, to new projects.

Although my work does not seek to actively position the studio in relation to professional practice, I do believe that important parallels exist. One such parallel occurs in the project exchange review, as it replaces the student’s ability to claim “this is my

project” with the question of “what can I contribute to this project.” This question is surely central to any collaborative professional practice.

The project exchange instructional model relies on the review as a working session, in which invited experts are obligated to provide practical advice to students concerning the strategic and tactical advantages and liabilities inherent in the act of exchanging projects. In this way, the model promotes the review as something like a matchmaking session in which a student may choose a project based on its apparent comfort and familiarity, or perhaps based on a tactical assessment of risk and perceived reward.

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ENDNOTES

1. For example, in Kathryn H. Anthony, *Design Juries on Trial: The Renaissance of the Design Studio* (New York: Van Nostrand Reinhold, 1991), and in Joan Ockman, ed., *Architecture School: Three Centuries of Educating Architects in North America* (Cambridge, Mass: MIT Press, 2012).
2. See Kathryn H. Anthony, “Studio Culture and Student Life: A World of Its Own,” in Ockman, *Architecture School*.
3. Sarah Kuhn, “Learning from the architecture studio: Implications for project-based pedagogy,” *International Journal of Engineering Education* 17, 4/5 (2001): 349-352.
4. Yeonjoo Oh, Suguru Ishizaki, Mark D. Gross, and Ellen Yi-Luen Do, “A theoretical framework of design critiquing in architecture studios,” *Design Studies* 34, 3 (2013): 302-325.
5. Aaron Koch, Katherine Schwennsen, Thomas A. Dutton, and Deanna Smith, *The redesign of studio culture: A report of the AIAS Studio Culture Task Force* (Washington, DC: American Institute of Architecture Students, 2002).
6. Mike Christenson, “Scripting parasites: Exchanges in the architecture studio,” in *Unconventional Computing: Design Methods for Adaptive Architecture*, ed. Rachel Armstrong and Simone Ferracina (Cambridge, Ontario: Riverside Architectural Press, 2013); Malini Srivastava and Mike Christenson, “Play in Architectural Pedagogy: Shifting Allegiances and Trading Projects,” presented at the 2018 Fall Conference of the Association of Collegiate Schools of Architecture; Malini Srivastava, John Barton, and Mike Christenson, “The Death of the Desk Crit,” presented at the 2019 ACSA/EAAE Teachers Conference.
7. Mike Christenson, *Beginning Design Technology* (New York: Routledge, 2015), 76.
8. Michael J. Crosbie, “Project Swap: A Design Studio Experiment Tests Ideas of Authorship and Collaboration,” <https://commonedge.org/project-swap-a-design-studio-experiment-tests-ideas-of-authorship-and-collaboration/>