

Empowerment and Learning in a First Semester Design Studio

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INTRODUCTION

This paper is a summary of the research which led to my dissertation in Education, which was a case study of a first-year design studio at a US Architecture School. With the desire of contributing to make design studios more supportive and positive learning environments, I focused my research on the professor's pedagogical principles and their influence on the studio dynamic and students' creative processes.

I graduated in a five-year professional architecture degree program in Venezuela and I now belong to the faculty of this same School of Architecture. My experiences as a female student and as a non-studio course professor have given me powerful motivation for my research. In addition, participating in a graduate education program in the US reinforced my critical position toward architecture education and widened my horizons for change.

In design studios, the heart of the architecture education process, students learn by developing projects under the guidance of an instructor. Through this "learning by doing" system' students are expected to develop their creative potential. In a typical studio, the input of instructors strongly affects students in different ways, depending on students' personal development and architectural expertise.² Usually, students become so attached to their projects that student-instructor relationships are transformed into the triad "student-project-instructor." Peers, even if apparently less significant in students' experience of studios, can be either antagonists or supporters. In most studios, students' strong reliance on their professor's critiques and the typically competitive ambiance augment students' isolation.¹ Nevertheless, cases are found in which peers have been able to form a support network that helps them deal with pressures and stresses in design studios.

Although studio courses constitute the center of professional education in various design fields, little scholarly research has been done on design studios. Among studies about design studio teaching and learning processes, only the thorough MIT Study was done based on observations of studio activities and interviews with students and teachers. Schon's publications about studios⁶ were based on the field work from the MIT Study. Other studies have focused on particular aspects of studio teaching, such as Dinham's⁷ and Bray's⁸ on design professors. The first looked at two professors' problem design and teaching strategies in studios and the second, centers on one professor's thinking during teaching. Other important investigations have been Anthony's⁵ on architectural design juries and Ahrentzen and Anthony's⁴ about gender issues in studio settings. The most recent study published, by Groat and Ahrentzen,³ deals with faculty women in architecture.

In the last decade, education scholars, feminists and critical pedagogues have dedicated attention to architecture education.¹²

These varied efforts reveal a growing interest in looking more profoundly into not only architecture pedagogy, but also successful studio practices, some of which diverge from the usual norms and philosophy of architecture schools.¹³ Yet to my knowledge, prior to the present study, there have been no qualitative case studies on design studios in the US from the dual perspective of both teacher and students.

SIGNIFICANCE

This study is significant in three ways. First, by offering an in-depth look at the studio dynamic from the double vantage point of students and their professor, it portrays for architecture educators the complexity and the potential of studios as a learning environment.

Second, it examines a specific pedagogy, inspired by feminist principles and student-centered pedagogy, that other instructors might find useful in their own efforts to make design studios more healthy, positive, and more conducive to creative and socially responsible architecture practice.

Third, this study is one more step forward in building interdisciplinary bridges¹⁴ to study the design experience. My familiarity with architecture education and my status as a non-practitioner both drove me to explore connections of the psychological, cultural and political aspects involved in this design studio.

METHOD

Within this case study, my focus was on the meaning students made of their studio experience and how this connected with the professor's educational philosophy and teaching strategies. In addition, I was interested in relating students' individual learning processes with their socialization in the architecture culture and how these influences affected their creative processes. My broader theoretical framework is that of social constructivism, the idea that students actively construct their knowledge by integrating formal learning with their social experience, and that the values and political stances of the participants are embedded within this educational dynamic. The particular intentions of this research and my own belief in the subjective nature of knowledge led me to use a qualitative methodology.

The study followed Stake's¹⁵ case study guidelines, in the sense of anticipating what might be encountered, while being as open as possible to new information. As an instrumental case study, the issues and research questions I identified *a priori* based on my pilot studies and literature review¹⁶ were the following:

1. How does the professor apply her student-centered pedagogy and cultural feminist beliefs in this first-semester design studio experience while also teaching the required design knowledge and

supporting students' socialization into the architecture culture?

2. How do students experience this professor's pedagogy and how do they benefit in terms of personal empowerment as creative individuals, development of design skills as contextual knowers and construction of a positive group learning dynamic?

The pilot studies, which I conducted in my own workplace in Venezuela and also in Massachusetts where I was doing graduate work, made me more aware of my personal beliefs about architecture education. In studying the contrasting information I collected in these sites, I was able to discover the common threads of architecture culture that related them to one another and to my own personal experience. This process prepared me for my researcher role as a participant observer and interviewer in this case study.

The data collection of the case study was done during one academic semester, mainly through interviews and participant observation. I also reviewed handouts and written materials from the department and the professor, and had informal conversations with former students of this professor and students currently in other professors' studios.

From the thirteen students of the group, twelve participated. In the investigation process of this case study, I found the instructor to be cooperative and interested in my research, giving me free access to do my work. Her ability to articulate her ideas also facilitated my attempts to contextualize her pedagogy in a broader sense. In addition, she made a thorough review of my descriptions of the studio dynamic and my portraits of her and the students, bringing a greater level of accuracy and trustworthiness to this work.

EMPOWERMENT AND LEARNING TO DESIGN

The instructor's general pedagogical strategy was based on two interdependent goals: empowering students and helping them learn design skills for a responsible practice.

(Professor) I don't think you can design anything without a certain sense of self esteem, because it's very tough and you are always anxious. Is it right, is it wrong, is it better, is it not as successful? ... [T]o me it's really important that each of my students feels, by the end of the semester, that they have an awareness of both aesthetics and ethical responsibility for others, something of substance in that they identified [with], and that they see some level of personal development.

Her strategy for helping students build self-confidence was to take the stance of co-explorer with them in studio activities. Her humor and investigative approach to design ideas communicated to students the importance of play in exploring design thinking and vocabulary. In her view, this psychological support helps students build self-confidence, thus enabling them to take the risks necessary to learn design skills:

The students' self-assurance and enjoyment which resulted, along with the group networking she also encouraged, helped to create fluid and productive teacher-student interactions. This dynamic motivated students to acquire the discipline needed to cope with their academic requirements and adaptation to college life.

(Alexis) I know the process that's gonna happen. I know that I'm going to think of an original idea and she is gonna come around, and gonna give me some ideas. We're gonna analyze and I think and get more ideas. She's building until you're at your final thing. It's not hard anymore. It's just time consuming. I enjoy it. I just wish I had more time in the day.

To be a co-explorer as a pedagogical strategy involved sharing authority and power in a gradual process, both empowering students and providing the firm guidance they needed as first-semester students.

Another teaching strategy she used, clearly revealing her belief in student-centered education, is that of respecting students as con-

structors of knowledge" and taking into account individual learning styles and needs, both in her work with them and in her evaluations. The effect of her intentions is noticed by students, who, even in their first semester, distinguish her positively from other studio teachers.

(Justin) [Our professor] is a teacher and he is an architect. You can be a great architect and not be a good teacher. You can know so much and not be able to work with kids. And she's both. I guess that is why he can't teach for anything. We see it. We all mention it. We've talked about that.

One of the common criticisms of student-centered approaches such as this is that they fail to teach skills and knowledge. Since this was not a comparative or evaluative study, I did not compare these participant students' proficiency with that of students from other groups. Many design professors will certainly want objective proof of the advantages of her pedagogy. This I cannot give. However, based on my observations, my own experience as a professor in an architecture school, and my pilot studies, the results of which were corroborated by existing literature, I conclude that this pedagogy is extremely effective in preparing students for their academic and professional futures. The benefits of her pedagogy have wide and long-term implications that are impossible to evaluate in objective terms, and which also point to the difficulty of making objective evaluations of students' design proficiency. For example, not only did I observe a wide range of design solutions in this particular studio, but some students' comments reflected an awareness of their design process and value of diversity:

(Dhamandeep) I don't know how my professor taught us [because] everybody has a different design. Everybody has [a] different thinking, and the design comes from your thinking, right? The way I design is different from other students. Probably they don't understand my design and I don't understand theirs, but it's not right or wrong. It's just yours, it's what you created.

Yet even more striking and relevant to my study's focus were students' descriptions of the evolution of their own creative processes and the development of their own design methods.

(Eddie) I guess the most major experience or lesson I underwent this semester, due to [our teacher] has been the way I interpret an assignment. It is a certain way to figure out, to simplify the project at the beginning... enough that I could break it up into parts and then see it evolve toward the end, and make sure that along the line it fits the requirements. [Before] I spent too long to make my problems or projects too complex. And being able to break it down, to define a simple way of approaching it I think will help me in the long run...

This level of awareness and reflection is rare in design studios, even at higher studio levels.¹⁸

BUILDING BRIDGES WITH THE LITERATURE AND THE PILOT STUDIES

The results of this case study indicate a strong convergence of theory and practice. Looking for interdisciplinary connections that could enrich design studio pedagogy, I related both this case study and my pilot studies to research from other disciplines, including critical pedagogy, feminism, education and creativity.¹⁹

Results from the pilot studies and this case study illuminate both ends of the design studio pedagogy spectrum, ranging from traditional studio practices at one end to alternative (critical/ feminist/ student-centered) practices at the other. The pilot studies corroborated the description of dominant trends of studio pedagogy provided by various architecture scholars,²⁰ critical pedagogues,²¹ and feminist scholars.²²

My pilot studies revealed a strikingly negative picture of students'

studio experiences that gave credence to the positions taken in the critical and feminist literature. In contrast, this case study provided an encouraging picture, suggesting directions for feasible reforms in design studio pedagogy.

Drawing from these diverse sources, I categorized the implications of my research in terms of three main contrasts between this professor's pedagogy and traditional studio pedagogy: a) master-apprentice model vs. student-centered model b) collaboration vs. individualism c) social-centered design vs. object-centered design.

(a) One of the clear implications of both the pilot studies and this case study, which was also corroborated by research from other disciplines, is that design studio pedagogy would benefit from a shift from the master-apprentice model to a more student-centered approach in which the learning styles²¹ and personal backgrounds of students would be incorporated in the design process. This shift implies a radical transformation of our beliefs about the education process,²⁴ including challenging our own social and political viewpoint. The work of Argyris and Schön²⁶ with architecture professors is an excellent example; their attempts to change professors' pedagogically inadequate theories-in-use with a behaviorist approach was unsuccessful,²⁷ and points out the extent to which educational models form — and are formed by — our political views about society and the distribution of societal power.²⁸

This professor's concern for empowering students relates as well to creativity scholars'²⁹ emphasis on the importance of connection with emotional roots to develop individual creativity, as well as taking into account the "social and cultural context in which the 'creative person' operates."³⁰

Besides the professor's effort in helping students to discover the resources they could draw from themselves, she helped students cope with personal conditions that could be obstacles for their studio work and she stimulated their curiosity and their sensitivity to their surroundings. This process motivating their spatial/environmental awareness functioned as a transition scaffold to the architecture culture. She encouraged the joyful exploration of solutions while at the same time demanded habits of strength, discipline and high standards to ensure that students could take pride in their work. All of these approaches correspond to Csikszentmihályi's work³¹ on the conditions which foster creativity in individuals.

(b) Another category of implications of this research which is equally connected to the literature is the importance of collaborative learning and group networking, and, as the instructor herself emphasized, their role in empowering students.

(Professor) What I don't want them to feel is that they have nothing to teach each other. The origins of collaboration are in respect for each person's expertise and wisdom. And so, if I can now help them to see that, each of them can be a teacher in one way or another...

Through group networking and collaborative learning, students learn to see one another as effective producers of knowledge, and develop an increased sense of mutual respect. Studio teachers usually assume that studio proximity will naturally generate peer bonding. This has generally proven to be not true.³² In fact, the schooling conditioning most students bring to studios tends to make them dependent on the professor. The studio's competitive learning environment also aggravates secretiveness and distrust among peers. What I observed in this design studio contrasted sharply with the descriptions in my pilot studies and in other studies such as Willembrock's.³³

Experiential educators design a special course dynamic in order to change such patterns of dependence on professors' authority and transfer power to students. Students and teacher plan together an overt strategy of power transference, in which students acquire classroom power while the professor slowly backs off from directive roles, so a power void is not created in the classroom.³⁴ Although this professor did not use Warren's model specifically, she did work to

gradually give students opportunities to increase their power as individuals and as a group, changing patterns of dependency.

(Professor) [One student] was forever saying to me "Give me an idea and I'll do it." It became a joke. [I would respond] "Once you give me an idea I'll give you something back...a negotiation." I [would say] "How about you give me something to start with? then I'll give you an idea. You go first, I'll go next."

In addition to improving the learning environment in these ways, including group empowerment as a studio objective also prepares students more fully for their professional careers. Traditional studio pedagogy has practically ignored what has increasingly become the usual working mode of architects." In her ethnographic account of architecture practice, Cuff asserts that by focusing on the individual learning of design skills, architecture education has lost touch with the practice and its basis in team work and group collaboration.

(c) Finally, this research also points to the importance of increasing students' awareness and sensitivity to questions of diversity and environmental responsibility. Traditionally, such approaches have been seen as political stances which don't belong in architecture schools. As many critics have pointed out, this political neutrality of the schools has proven detrimental for the profession itself, as graduating architects continue an elitist detachment from society's needs despite societal changes that require a new vision of architecture practice.³⁶ In traditional design studios, this apolitical message is conveyed through decontextualized, object-centered exercises in which students are driven to approach design basically in aesthetic and tectonic terms, without ever foregrounding socioeconomic and environmental concerns.

Some optional upper-level studios are taught by this professor as service-learning studios, and thus do diverge from the traditional model. However, my dissertation timing didn't allow me to observe these studios, which would have been ideal. In this studio, the professor was constrained to a large extent by the requirements for all the first-year studio groups, which centered on abstract exercises. Nonetheless, the way that she guided the studio activities, especially her one-on-one critiques with students, allowed her to expand and contextualize the knowledge created from the abstract exercises of the studio. Her comments and approaches besides stimulating students toward incorporation into the architecture culture (language, spatial perception, aesthetics) also motivated their self-reflection on their creative processes within their personal conditions and socio-cultural reality.

For example, she created an internal jury review for the final exercise and invited upper-level minority students as jurors, along with two practicing architects. The former students thus had the chance to operate in a role-model and authority position, and her first-semester students had the experience of interacting with qualified peers in critiquing their projects. This initiative was highly appreciated by the group, as was the professor's choice to devote one of the weekly group discussions to Frank Gehry's work, since the Bilbao museum had been inaugurated during the semester. This activity, organized as a session of Gehry's videos, served as a platform for discussion about architecture practice and social responsibility. Decisions such as these are related to Baxter-Magolda's³⁷ suggestions for improving educational practice in higher education, even though Baxter-Magolda does not explicitly address the topic of social responsibility.

DIRECTIONS FOR CHANGE

These issues of broader social and environmental context are not merely new pedagogical theories but are related to economic and technological changes in society which are necessitating shifts in the professional job market.³⁸ Academics from different disciplines and perspectives are pointing out the urgent need to prepare architects for

a teamwork-oriented profession which will be more connected to the needs of people and communities. These pressures have been increased by the reduction in educational and research budgets and by demands for a social justification for what architects do and how future architects are trained."

This issue of connectedness distinguishes both this instructor's pedagogy and the conclusions of recent studies on how to improve higher education,⁴⁰ architecture education and design studio pedagogy.⁴¹ This theme, central to the work of these researchers, has profound implications for the future of architecture education, both in terms of content and method.

The theme of connectedness has been central to the present case study. The three categories of implications previously discussed are all concerned with different aspects of this idea, whether it be through (a) favoring a student-centered studio dynamic, (b) using collaborative work and group empowerment to facilitate the acquisition of design skills and self-confidence or (c) teaching design within broader social and environmental contexts. This case study thus points to changes in design studio pedagogy which run both inward and outward of architecture education, and which I expect will enable educators to construct bridges among disciplines and toward the community. In doing so, they will not only support the needs of today's professional practice, but will also bring about new dimensions in education.

NOTES

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- ² Roger Simmonds, "Case A: A first year studio in a graduate school of architecture," in W. Porter and M. Kilbridge eds., *Architecture Education Study* (New York: Consortium of East Coast Schools of Architecture and the Andrew W. Mellon Foundation, 1981), pp. 5-205.
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- ⁴ Kathryn H. Anthony, *Design Juries on Trial: The Renaissance of the Design Studio* (New York: Van Nostrand Reinhold, 1991).
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- ⁶ Donald A. Schon, *The Reflective Practitioner* (New York: Basic Books, 1983), *The Design Studio: An Exploration of its Traditions and Potentials* (London: RIBA Publications Limited, 1985) and *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*.
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- ⁹ Anthony, *Design Juries on Trial: The Renaissance of the Design Studio*.
- ¹⁰ Ahrentzen and Anthony, "Sex, stars, and studios: a look at gendered educational practices in architecture."
- ¹¹ Linda Groat and Sherry Ahrentzen, "Voices for change in architectural education: Seven facets of transformation from the perspectives of faculty women," *Journal of Architectural Education* 50, no. 4 (1997): 271-285.
- ¹² Sherry Ahrentzen and Janet McCoy, eds., *Doing Diversity: A Compendium of Architectural Courses Addressing Diversity issues in Architecture* (Washington, DC: Association of Collegiate Schools of Architecture, 1996); Ernest L. Boyer and Lee D. Mitgang, *Building Community: A New Future for Architecture Education and Practice* (Princeton: The Carnegie Foundation for the Advancement of Teaching, 1996); Thomas Dutton, ed., *Voices in Architectural Education: Cultural politics and pedagogy* (New York, NY: Bergin & Garvey, 1991); Thomas Dutton and Lian Hurst Mann, eds., *Reconstructing Architecture: Critical Discourses and Social Practices*, ed. (Minneapolis: University of Minnesota Press, 1996); Groat and Ahrentzen, "Voices for change in architectural education: Seven facets of transformation from the perspectives of faculty women."; Lee D. Mitgang, "Saving the soul of architectural education: Four critical challenges face today's architecture schools," *Architectural Record*, no. 5 (1997): 124-130; Leslie Kanes Weisman, "Diversity by design: Feminist reflections on the future of architectural education," in Diana Agrest, Patricia Conway, and Leslie Kanes Weisman eds., *The Sex of Architecture* (New York: Harry N. Abrams, Inc., 1996), pp. 273-286.
- ¹³ For example, see in Dutton, *Voices in Architectural Education: Cultural Politics and Pedagogy*, the essays by Feigenberg, Grant, Kingsley, Leavitt and Ward; also see Gerhard Olving and Leon Pastalan, in Ahrentzen and McCoy, *Doing Diversity: A Compendium of Architectural Courses Addressing Diversity Issues in Architecture*, pp. 35-37; Anthony Ward, "Biculturalism and community design: A model for critical design education," in Dutton, *Voices in Architectural Education: Cultural Politics and Pedagogy*, pp. 195-223.
- ¹⁴ Robert Geddes, "Ladders and bridges," in *Carnegie Foundation Forum on Architecture Education* ([On-line] Available: <http://www.aia.org/pia/eprn/geddes.txt>: 1995).
- ¹⁵ Robert E. Stake, *The Art of Case Study Research* (Thousand Oaks, CA: SAGE Publications, 1995).
- ¹⁶ Jeannette Diaz, "A contextual perspective on architectural education," in *Comprehensive Examination Paper A* (Amherst, Massachusetts: School of Education. University of Massachusetts, 1997) and "The design studio experience: Students and professors' voices from Amherst and Caracas," in *Comprehensive Examination Paper B* (Amherst, Massachusetts: School of Education. University of Massachusetts, 1997).
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- ¹⁸ Diaz, "The design studio experience: students and professors' voices from Amherst and Caracas" and Simmonds, "Case A: A first year studio in a graduate school of architecture."
- ¹⁹ Diaz, "A contextual perspective on architectural education."
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- ²⁵ Dutton, "The hidden curriculum and the design studio: Toward a critical studio pedagogy."
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- ³⁰ Csikszentmihályi, *Creativity*, p. 135.
- ³¹ *Ibid.* pp. 343-372.
- ³² Anthony, *Design Juries on Trial: The Renaissance of the Design Studio*; Díaz, "The design studio experience: Students and professors' voices from Amherst and Caracas."
- ³³ Laura L. Willembrock, "An undergraduate voice in architectural education," in Dutton, *Voices in Architectural Education: Cultural Politics and Pedagogy*, pp. 97-119.
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