

not
white

diversity in beginning design education



Shannon Chance, AIA, Editor

PROCEEDINGS of the
20th National Conference on
the Beginning Design Student
Hampton University Department of Architecture

Copyright 2006 Hampton University Urban Institute
/individual articles produced and edited by the authors

Printed proceedings produced by Shannon Chance, Assistant Professor of Architecture, Hampton University.

All rights reserved. No part of this book may be reproduced in any form or by any means without written permission of the publisher.

Published by:
Hampton University Urban Institute
Department of Architecture
Hampton University
Hampton, VA 23668
757-727-5440
fax 757-728-6680

Library of Congress Cataloging-in-Publication Data

Chance, Shannon
Not White: Diversity in Beginning Design Education
(Proceedings of the 20th National Conference on the Beginning Design Student)
compiled by Shannon Chance
1. Architecture - Diversity 2. Teaching - Architecture 3. Teaching - Diversity 4. Teaching - Design
5. Diversity - Design

ISBN 0-9785172-0-2

Street as Common Place: A Full Scale Project in Search of Boundaries

“Think of a city and what comes to mind? Its streets. if a city’s streets look interesting, the city looks interesting. If a city’s streets look dull, the city looks dull.” - Jane Jacobs

The street is the most diverse of human places, but also the most common of places, where human activity takes on many forms. There are places for human events, human interactions, human experiences, and places for the human psyche. Street is a context in which the diverse is the norm, and relating to the street is a commonality. This paper discusses a beginning semester final project that begins and ends with the street. The project is the design and construction of full scale environments that are sited to form into a street. Although a succession of projects leading to the final project has been at the scale of the hand, design experiences have progressed from the concreteness of full scale material objects toward the abstractness of *being inside*. While the street is not literally an experience of insideness, buildings that form it enable experience of the street from an adjacent interior space. This experience alters perception of both the streetscape and the perception of oneself in relation to it. A boundary of space and self is intertwined. In his book, *The Aesthetic Townscape*, Yoshinobu Ashihara believes that a “key explanation for the great diversity in basic perceptions of space lies in the nature of the boundary that distinguishes internal from external space and in the treatment of territorial space.” The premise of this design project is that if this boundary condition can be experienced first hand, as a test of design intentions, a fundamental lesson linking architectural design and human experience will be generated and take hold.

Initially, individual students were sent to experience actual urban streets in search of primary human experiences. These were discovered, named, and examined for characteristics common to many peoples. A representative list emerged with names such as a place of meeting; a place of prospect; a place of contemplation; a place for waiting; a place for the sky; etc. These names were assigned to 38 different teams of four students, with the project “to design and build *an incident of human occupancy*.” Materials were limited to wood lattice strips, a binding material, and sheer fabric. Each group was assigned a six foot square site along two rows of sites in the main plaza of the campus that will be built into a “street.” Teams were formed of students from different sections to build community in the studio. They must find common ground as they conceptualize, experiment, strategize, and build architectural support for forms of occupancy abstracted from experience. Full scale construction means making design decisions about actual materials, selection, joinery, and actual experience. Experiencing other design efforts by walking in and out of the actual projects, students discovered the fundamental nature of their own bodies in space, as a measure of design intentions and concepts, and as a relation to the connecting boundary between individual architectures and the shared place of the street. Perception of self changes in response to variations in architectural extensions between inside and outside. As an analogy to street as a place of diversity, common relationships become evident.

abstract
Stephen Temple

Assistant Professor
School of Architecture
Downtown Campus
University of Texas San Antonio
501 W. Durango Blvd
San Antonio TX 78207
(210) 458-3023
email: stemple@utsa.edu

Stephen Temple is an Assistant Professor and Coordinator of Basic Design in the Architecture in the School of Architecture at the University of Texas San Antonio. He has taught design and architecture for ten years, following fourteen years as a licensed practicing architect. His design work has received awards. His writing is in the areas of criticism and architectural education, especially in the areas of basic design education and digital design integration. Bachelor of Architecture from Carnegie Mellon University and a Master of Science in Architecture from the University of Texas at Austin.



The street is a place of great human diversity. There are places for varieties of human events, human interactions, human experiences, and places for the human psyche and the human body. Yet as diverse as the street can be, relating to the street as a place is a commonality. This paper discusses a beginning semester final project that begins and ends with the street. The project is the design and construction of full scale environments that are sited to form into a street. As the culmination of a succession of projects that have been designed and made full-scale of real materials, students are transformed by this experience. Full scale construction means making design decisions not only about actual materials but also *actual experience*. Experiencing full scale designs by walking in and out of actual projects, students discover the fundamental nature of their own bodies in space as measured against the connecting boundary between individual architectures and the street as an edgeless boundary occupants hold in common. Student self perception changes in response to variations in architectural extensions between inside and outside. These evident relationships are held in common by all occupants of the street.

The street project is founded in a pedagogy in which students, through their own design efforts, discover an interactive agency between making and thinking, between direct experience and conceptual constructs. Throughout their first semester, design students have been working at the scale of the hand, ostensibly to discover, by manipulating actual materials, decision-making processes that are not only internally and externally generated but inextricably bound. Building on the experiential learning approach of David Kolb, the studio pedagogy exploits direct experience as a basis for learning and reflective thought as a basis for transformation, both of the design project and of the student him/her self. By occupying their structures, the learning process is as evident in the actual experience of the final project as it is in the full scale design and building of the project.

Experiential Learning As a Structure of Making and Thinking

Many educators consider “thinking” as the first step in any learning experience and appeal to thought as *the* primary means of acquisition of knowledge. Thinking is primarily a form of abstracting and many first year design projects are structured as abstract learning experiences that limit or obscure direct experience in the world. Exercises such as diagramming, conceptual thinking, visual thinking, analysis, precedent research, and representational drawing are fragmented from, as George Lakoff characterizes it, “the world as we feel it by living in it,”¹ frequently causing students to become uncomfortable with their own learning. Lessons of abstraction are only part of a much larger and encompassing structure of learning design but are misconstrued by beginning students as methodologically “correct” paradigms of design. The relationship between thinking and making is analogous to other basic human relationships like the mind and the hand, materials and intentions, and the Cartesian separation of mind and body. At the core, these are fundamentally relationships between the concrete and the abstract. Given that designers of the built environment conceptualize and develop what is in the end concrete and tangible, it seems causally reasonable that first year pedagogy should introduce and cultivate the complex interactions between the abstract and the concrete as a step toward identifying and actualizing essential and enduring aspects of processes that are universal to architectural foundation education.

By modeling first year pedagogy to cultivate relationships between concrete and abstract processes of learning, it is possible to establish basic connections between them in an effort to develop in students a fundamental awareness of processes that underlie these connections. Synthesizing concrete with abstract content can be accomplished through a structural approach that holistically defines transaction between these factors without reliance on forces outside the model. Additionally, integrating concrete (making) and abstract (thinking) learning experiences recognizes a transformational interdependence between them that forms a sound basis for the continued development of design process.

Initial learning experiences are especially paradigmatic for university freshmen. Educator, Robert Leamson defines learning as “stabilizing, though repeated use, certain and desirable synapses in the brain”² Establishing these neural connections in the thinking part of the brain, according to Leamson, requires “experience and sensory interaction with the environment that promotes and stabilizes neural connections.” Neural formation that accompanies learning takes time to form and will degenerate if not used repeatedly. This happens primarily by incorporating direct experience. Learning can be characterized,

according to Leamson, as repeated testing of mental representations against the reality of experiences until one's thinking, or brain pathways, have been altered due to this experience. Learning in this way forms fundamental queries, the kind of learning that is personally transforming, and can form the body of inquiry for one's education and career. Desirable foundational design studio learning experiences are those that grab hold and challenge beyond one's behavior patterns or internal experience while also connecting to a student's mental life, their thoughts, ideas, dreams, and consciousness, while also realizing external consequence within a larger, tangible world.

A sequence of first semester design exercises will be shown that follow this approach, although the principle intent of this paper is to present the project that culminates this introductory semester. At the basis of this sequence of design exercises is a fundamental premise of education psychologist Jean Piaget - that individuals actively seek to make sense of the world and actively create their own structure for knowledge.³ Education psychology identifies concrete learning and abstract learning as two opposing yet complimentary and primary modes of acquiring and acting on knowledge.⁴ Following the basic tenets of the developmental leaning structure of Piaget , David Kolb has modeled an approach to experiential learning that elaborates the basic bi-polar structure of concrete and abstract learning.⁵ (See Figure 1.)

Kolb's process of learning cycles is typically interpreted as telling of one's "learning style" and has been construed to mean many things for the application of education theory. The purposes of this direction for architectural education are not the subject of this inquiry. Rather, it is the structure of Kolb's learning cycle diagram that is significant. Concrete learning methods are facilitated by immediate experiential contact in which there is direct engagement through cycles of heuristic manipulation and discovery, followed by reflective observation and judgment that is transformative of concrete experience. Abstract learning is a utilization of mental mechanisms and cognitive comprehension using indirect representational mechanisms and referentially symbolic structures in acts of conceptualization and synthesis. Circumferential cycling through concrete and abstract modes of learning and transformation sets up each mode as mutually and systematically modifying the other. This cycling forms a basis for the staging of first year pedagogy as the initial steps to individual development of integrated design processes.

Recharacterizing Kolb's learning cycle in terms of typical design studio experiences yields striking similarities to activities that already and routinely take place. Engaging in concrete learning experiences takes form in making things and engagement in first-hand material explorations and other direct experiences. It could be said that concrete experience is in large part the actual content of design, in that buildings are the environmental surroundings and circumstances of an occupant's everyday life and ordinary state of consciousness of the things around them. The successful practice of architecture is itself grounded in the development and elucidation of abstract content that is experientially based in concrete material physicality. The design process of architect Steven Holl, for example, develops architectural experience as a perceptual synthesis of heightened sensory phenomena and ideational encounters.⁶

Design is also a reflective activity, with formal and informal design critique at the center of studio efforts. Reflective activity in design process typically takes form as a search for sound measures of design, basic issues, principles, and fundamental processes that can be built upon. Abstract conceptualization in design occurs within the development of meaningful ideational structure for a design project and typically occurs in the form of discursive thought, conceptual development, and visualization. Representational structures, such as diagrams, drawings, verbal descriptions, material models, and virtual models are instruments that seek to connect the abstraction of concepts and ideas to the realities of human sensorial experience and physical materiality. Active experimentation defines design activity as concepts and ideas take form as the raw materials of architecture (i.e., configurations of walls, floors, openings, spaces, forms, materials, structure, and construction).

As a pedagogical process, making and thinking, concrete and abstract processes, respectively, are dialectically paired and it is as paired actions that they become operational for design activity. Key to actualizing this structure in the design studio is that students develop his/her own operational conditions - some conceptualize and are informed by making; others experiment with making and discover/develop conceptualized thought; still others "receive"

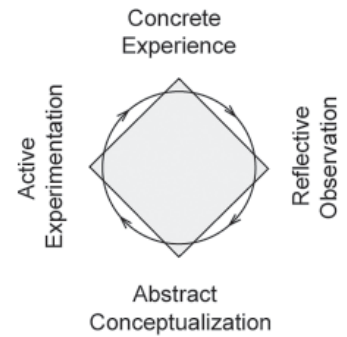


Figure 1: Experiential Learning Model as Developed by David

conceptualizations primarily through reflective activity (such as critique). Designing always occurs with respect to a varied set of conditions that necessitate varied modes of learning activity. In light of these distinctions, a supportive and integrative pedagogy will allow, fertilize, and propagate this in the context of design studio projects, especially those in which the design and construction of full scale objects necessarily causes the completion of the entire structure of experiential learning.

Introductory Encounter: From the Hand To the Street

A primary pedagogical concern of the initial design studio semester is to gain an awareness of the interactive balance of concrete and abstract experience at the level of individual engagement in which everyday human experience is based. Making is an important “first step” in balancing the effects of the visual culture of abstraction in which our first year students have most often been immersed. Making things is especially relevant in building material and construction sensitivities in design students, who will be, as architects and designers, charged with constructing our sensorial and our conceptual environment.

Concrete and abstract processes are both facilitated and transformed by production (experimentation) and discourse (reflective observation, criticism). These relationships, primarily through engagement in the concrete experiences of making things, are followed in turn by measured engagement in reflective critique of things made. Projects foster immersion in concrete experience through direct contact with materials for discovery and manipulation of a material’s workable properties in relation to design intentions. Engagement in making things has its premise in the notion that making decisions about materials is making decisions about design. Full scale construction means making design decisions about actual materials, selection, joinery, and most importantly, actual experience. Projects necessitate that students employ heuristic investigations and discoveries that are brought to light through on-going reflective observation and comparative critique. Modes of conceptualization and experimentation are implicit in the efforts of working with materials to complete the projects.⁷

Projects are sequenced to develop concrete experience through reflective critique by engagement in making things in a staged transformational progression from two-dimensional to three-dimensional and direct material encounters that are directly occupied. Workmanship is a constant measure of intentions and is brought into awareness as a fundamental category of design and material qualities.⁸ The street project culminates the initial architectural design studio course project sequence because it is the first design project realized where students can physically experience their own design concepts from the interior. It is an enlightening moment when projects are assembled into a street and design students realize making a creative mark on the physical and social landscape.⁹



Figure 2: Construction Detail.

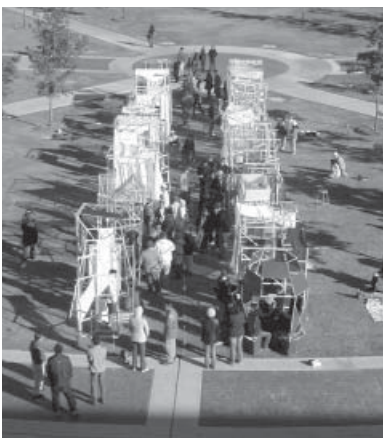


Figure 3: Street Project Installation Day

The Street Project

The street project is specifically structured to link making and thinking in the context of the pedagogy described in Kolb’s experiential learning model. The project is the design and construction of full scale environments that are sited to form into a street. Jane Jacobs, in her seminal, *The Death and Life of Great American Cities*, wondered, what comes to mind when we think of a city? Her answer was its streets. She believed that if a city’s streets look interesting, the city looks interesting. And if a city’s streets looked dull, the city seemed dull.¹⁰ Direct experience initiated the project. Students were first sent into an urban street that looked interesting to them, charged with experiencing relationships basic to human occupancy of the street. Basic human activities were discovered, identified, and named, resulting in a list with names such as “a place of meeting; a place of prospect; a place of contemplation; a place for waiting; a place for the sky; etc. These names of common street activities were then assigned to 38 different teams of four students, with the project statement to design and build an *incident of human occupancy*. Materials were limited to wood lattice strips, a string or rope, and sheer fabric. Each group was assigned a 6’ x 6’ site along two parallel rows of sites that formed a “street” in the main plaza of the campus. Teams were formed of students from different sections to build community in the studio. The first exercise explored the potential of the given materials as students designed and constructed a panel containing the fabric. This gave rise to detail. Each group was then challenged to find common ground as they conceptualized, experimented, strategize, and built architectural support for the form of occupancy abstracted from the experience of the street. (See Figures 2 and 3.)

Because the street is a place of great human diversity but also contains a commonality of human activities, it is an ideal culmination of the progression of full-scale projects. The street is not only a place for the human body it also sustains places for both the individual and the collective human psyche. Students are transformed by experiencing this project, both in its design and the experience of its final assembly. Through the semester students have been working at the scale of the hand. Design experiences have progressed from the concreteness of material objects toward the abstractness of *being inside*. (See Figure 4.)

While the street is not literally an experience of insideness, (the wooden structures are semi-transparent, as if a wire-frame drawing) the buildings that form it enable the experience of the street from an adjacent interior space, metaphorically, within a building adjacent to other buildings on a linear path. The experience of being within these buildings alters perception of both the streetscape and the perception of oneself in relation to it. In his book, *The Aesthetic Townscape*, Yoshinobu Ashihara believes that a “key explanation for the great diversity in basic perceptions of space lies in the nature of the boundary that distinguishes internal from external space and in the treatment of territorial space.”¹¹ The premise of this design project is that if this boundary condition can be experienced first hand, as a test of design intentions, a fundamental lesson linking architectural design and human experience will be generated and take hold. (See Figure 5 and 6.)

By experiencing full scale designs by walking in and out of actual projects, students discover the fundamental nature of their own bodies in space, both as a measure of design intentions and concepts and as a relation to the connecting boundary between individual architectures and the street as edgeless, imagined boundaries between people. Student self-perception changes in response to variations in architectural extensions between inside and outside. As an analogy to street as a place of diversity, common relationships between people and architecture, at the level of individual experience, become evident. Also evident is that individual experience can be shared, and the mechanism of that communication is architecture. Architecture is dialog and it happens at the level of the body, which in turn *informs* the mind.¹²

Conclusion

“Learning can be externally encouraged, but only internally initiated.”¹³

As a structure of learning, intentionally interrelated and cycled processes of making and thinking offer first year design pedagogy the many conditions for learning that address the learning situation of the design studio and offer to reconstitute student consciousness that has been bound into an abstract visual culture. It is not the objective of this structural approach to apply Kolb’s learning cycle as an exercise of applied science. To the contrary, the modes of learning analogous to Kolb’s experiential learning model are already embedded in design studio structure. Specifically structuring design activities as an intentional cycle gives the beginning design student a foundation of learning on which they can individually manifest design experiences as dynamically inter-relational. Engagement in concrete experience gives ground to the complex context of learning in which students act, manipulate, observe, challenge, and reflect in a dynamic process of thinking and making in which the holistic human experience of buildings is primary.

The street project addresses fundamental issues of architectural design as a culminating project that grounds architectural design education in actual human experience. The street project has been based on a thesis that it is possible to identify and actualize essential and enduring aspects of learning/doing/experiencing processes that serve both universal and specific functions of architectural foundation education. Because foundation pedagogy seeks the establishment of fundamental relationships on which a rigorous architectural education can be constructed, a pedagogy of experiential learning modeled on synthesizing concrete and abstract processes of learning realizes a transformational interdependence between making and thinking as a primary relationship. Initial design education learning experiences, when they are framed as deep fundamental queries of the experiencing embodied being, are especially paradigmatic for beginning design students because they are personally transforming. The street project, as a culminating project, intends to challenge beyond established behavior patterns or internal experience by connecting to a student’s mental life - their thoughts, ideas,



Figure 4: Inside a Street Construct.

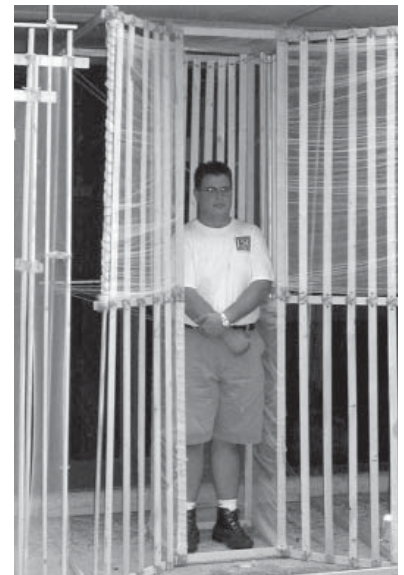


Figure 5: Inside a Street Construct.



Figure 6: Inside a Street Construct.

dreams, and consciousness. Most importantly, the street project realizes individual intentions in the real world, first at the level of the individual's own hand, and then extends to the external consequence of design within a larger, tangible world of the intentions and experiences of others. This is accomplished through embodied experience so, while the lessons of these projects are ultimately "studied collectively, they are nonetheless learned privately."¹⁵

NOTES

1. Lakoff, George, and Johnson, Mark, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, Basic Books, New York, 1999., p. xi.
2. Leamnson. Robert. *Thinking about Teaching and Learning: Developing Habits of Learning with First Year College and University Students*. Stylus Publishing, LLC 1999, p. 5.
3. Piaget, Jean, *Science of Education and the Psychology of the Child*. (Trans. Derek Coltman). Penguin Books, New York, 1977. Piaget's developmental theory is also elucidated in many of his other publications.
4. Woolfolk, Anita E. *Educational Psychology*, Allyn & Bacon, New York, 2000.
5. Kolb, David A. *Experiential Learning: Experience as the Source of Learning and Development*, Prentice Hall, Englewood Cliffs NJ 1984.
6. Holl, Steven, and Pallasmaa, Juhani., Perez-Gomez, Alberto. *Questions of Perception-Phenomenology of Architecture. A + U Special Issue*, July 1994.
7. William carpenter builds a strong argument for the activity of making as having a transformative purposiveness that is clearly situated between society and the individual. Carpenter, William J., *Learning By Building*, Van Nostrand, New York, 1997.
8. Pye, David, *The Nature and Art of Workmanship*, Cambium Press, Great Britain, 1995. Also, McCullogh, Malcolm., *Abstracting Craft: The Practiced Digital Hand*, MIT Press, Cambridge, Massachusetts, 1996.
9. Following the first semester immersion in making and reflecting, the second encounter is engagement in abstract conceptual mechanisms to elucidate and develop a context of thought against which concrete investigations may be balanced. Abstraction may include such issues as diagramming, analysis, visual thinking, drawing conventions, modeling, simulation, scale, context, as well as the use of narrative and metaphor, and the nature of ideation. Engagement in abstract conceptual thought also has its premise in the notion that learning to abstract is learning to design. Especially in the second semester, lessons of abstraction continue to be built upon lessons of concrete experience.
10. Jacobs, Jane. *The Death and Life of Great American Cities*, Random House Inc., 1993.
11. Ashihara, Yoshinobu. *The Aesthetic Townscape*, MIT Press, Cambridge, Mass, 1983.
12. Lakoff and Johnson. Use of the word *inform* is intended to refer to a double meaning - derived from Plato but reversed in that bodily experience and mind are reciprocal.
13. Leamnson., p. 19.
14. Ibid., p. 19.
15. Ibid., p. 19.