

Community Centered Design/Build Studios: Connecting the Past and the Future of Architectural Education

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Introduction

The subject of affordable single family housing presents a complexity to students and faculty that belies its modest scale as a conventional studio design problem. The complexity referred to here arises from the myriad of social and economic factors that suffuse any real effort to influence the system by which our culture produces affordable housing. The traditional design studio, despite its potential to act as an incredible laboratory of synthesis and integration, remains hidebound in a narrow view of the architect's role in society and a narrow definition of the skill set and perspective required to realize our ambitions of influence and impact. To change this system - to make it more responsive to the challenges of contemporary practice and to challenges like those presented by the problems of affordable housing - will require innovative approaches to the curricula of our programs and a critical reexamination of the goals of the studio pedagogy.

This paper seeks to examine the role of hands-on construction in architectural education along with the roots of the "social vocation" ethic within contemporary practice. Growing from this historical perspective, the paper then seeks to explore how these two traditions intersect in the context of a community-based design/build studio focused on research into the subject of affordable housing and the development of a prototype single family home for the cultural and climatic context of the southeastern United States. Using the experience of year-long collaboration between Auburn University's and Habitat for Humanity, this paper will examine the effect of this alternative approach to the studio model and consider the implications of this "service learning" teaching approach for the broader challenges facing architectural education and the profession of architecture.

The Limits of the Studio Model

The design studio as a model for professional education is lauded by many in the human sciences, most notably Donald Schön, as an ideal way to combine objective factual analysis with the real-world conditions of "complexity, uncertainty, uniqueness, and value-conflict."¹ However, the strengths of the studio model can also hide its Achilles heel. As with most any classroom environment, some aspects of the design process are emphasized and others downplayed. As Dana Cuff observes, in traditional studios students are most often exposed to "pure design" divorced from the dynamic context of practice.² The result, according to Cuff, is a skewed understanding of design, and a missed opportunity to teach students the "social arts" essential to effectiveness in intra- and interdisciplinary collaborations.

As noted by many critics of architectural education, including Cuff, Gutman, Woods and others, collaborative projects and interdisciplinary work "are generally marginalized in architecture schools today."³ This is especially troubling in light of its effects on architecture students' abilities to work effectively in the professional settings they desire to enter. Christopher Barlow of the Graduate School of Business at IIT notes that in interdisciplinary settings "a new kind of complexity comes into play", in which the "truths" of different perspectives conflict with each other. In these contexts differences in cognitive style, cultural backgrounds, personality and values can frustrate all hopes of collaboration. Barlow also notes that in our intensive efforts to teach students to understand a certain perspective, we generally only expose them to problems that can be solved in that perspective. The more success a student realizes in solving these "single domain" problems, the more likely they will encounter problems applying their knowledge in the complex and messy "multiple domain" context of the real world.⁴

The rise of the university-based academic/practitioner in the last thirty years has been accompanied by an increasing emphasis on "the purely abstract intellectual architectural

project.”⁵ This trend towards abstraction has been influenced in part by the values of the university tenure and promotion process, which seem to reward a focus on architectural theory derived from literary, philosophical, and cultural studies. While one might expect the effort to expand the focus of architecture to include influences from literature, and philosophy and other bodies of critical scholarship would bring a more interdisciplinary flavor to architectural education; this has not, except at the margins, been the case. Architecture schools have become increasingly isolated within the university, staunchly defending “their own agendas, values and culture...(which) privileges design above all.”⁶

The trend towards abstraction in the values and ethos of the architecture academy has helped to develop a widening gap between the focus of design studios and the skills needed to engage the challenges that lay ahead of architecture students today. Although the latest revolutions in technology of materials and construction techniques have dramatically reshaped the practice of architecture, many believe the future of the profession depends less on technological expertise and more on architect’s abilities to collaborate across professional boundaries, communicate their vision and values clearly to lay audiences, and connect our discipline more directly to the issues and problems of society.

Faced with the challenge of broadening the focus of architectural education and the limits of traditional studio pedagogy, where do we turn? Perhaps we can we develop perspective on this challenge by a closer look at the history of architectural education.

While form making and connections to theory dominate the architectural studio in most professional schools today, from the beginning, several significant undercurrents have tempered the studio and have served to broaden its structure and focus. Significant among these undercurrents are the connection between design and the craft-based, artisan traditions of the master builders and the powerful connections between architecture and a social vocation ethic.

The Artisan Tradition in Architectural Education

While most early schools of architecture limited their construction exposure to an understanding of the technical aspects of masonry and carpentry and enough knowledge of construction to review completed work; a small number of schools, led by the University of Illinois, went much further.

In 1873, N. Clifford Ricker, the head of the architecture program at Illinois devised a program patterned after the German model of the *Bauakademie*, which sought to synthesize architecture and engineering. “A former artisan himself, Ricker also believed manual training provided the basis for architectural learning”. Patterned in part after the Russian imperial system of vocational training, students in the Illinois program “enrolled in workshops in carpentry and joinery, cabinetmaking, and scaled models” during their first year of study. The most thorough example of the integration of manual crafts with and architectural education in this period was Tuskegee Institute, a private college for African Americans created in Alabama in 1881 by Booker T. Washington. Washington’s belief that Tuskegee students should be able to “do everything we teach” influenced the shape of every course of study on the campus, including architecture.⁷

With the exception of Illinois and Tuskegee few American schools incorporated hands-on experience with construction into their curricula. Through the mid-twentieth century, architectural education in the U.S. cultivated the view that a professional architect should have knowledge of construction trades, albeit limited to technical “scientific” study rather than practical experience.

The integration of hands-on craft with artistic education was championed again at the Bauhaus, founded in 1919 by Walter Gropius in Weimar Germany. Growing out of a merger between the Weimar School of Arts and Crafts and the Academy of Art, Gropius’s new school promoted the view that there “should be no distinction, that the arts and crafts should be brought together in the production of architecture.”⁹ This set of values crossed the Atlantic with the

scores of Bauhaus-trained architects and former Bauhaus faculty (including Gropius) who immigrated to the U.S. in the 1930's and 1940's. By the 1950's the influence this integration of "handicraft, technical, and artistic training" was widely felt in American architectural education, and wood and metal shops became "an integral part of all decent architecture schools."¹⁰

In the late 1980's and early 1990's a renewed interest in materials and a desire to cultivate an understanding of the connections between design and the construction process generated a resurgence of the craft-based pedagogy in the form of the *design/build* studio. Following the example of the of the earliest design/build studios at Yale and echoing the experience of Illinois and Tuskegee students a century earlier, faculty and students at a rapidly growing number of architectural schools began working on full-scale construction of small student-designed projects.¹¹ Fueled by this renewed interest in materials and tectonics, hands-on construction projects have become a common feature of most contemporary architecture programs.

In addition to the learning experience associated with planning and executing the construction of their own design work, these projects often incorporated a second significant pedagogical objective, the cultivation of a service ethic and an awareness of the connections between architecture and the social problems of our age.

The Roots of the Social Vocation in Architectural Education

Henri Saint-Simon's ideal of the artist (and the architect) as visionary leader formed a powerful marriage with the formal theories of the modern movement in post-WWI Europe, and charged schools like the Bauhaus with a sweeping utopian vision and a commitment to an agenda of social change.¹² Although the socialist ideology of the Bauhaus did not survive its transplantation to post-war America, architecture schools nonetheless continued to champion Modernism and its attendant sense of social mission throughout the 1950's and 1960's.

Beginning in the mid-1960's growing populism in the U.S. spawned a strong advocacy planning/community design movement, which found an enthusiastic following among architecture students and young faculty. As Thomas Dutton observes in *Voices in Architectural Education*, "the late 1960's saw the "proliferation of community-design centers; the rise of advocacy planning and user participation in the decision-making process... (all of which) did much to challenge the prestige and credibility of the profession."¹³

The response of the profession to the challenges and opportunities of the 1960's was a "search for authenticity" that included a critical discrediting of modernism led, as noted earlier, by the architectural academies and the "academic/practitioners" who championed first postmodernism, followed closely by "the resurgence of aesthetic formalism."¹⁴ In short order the focus of architectural education turned away from an ethic of social activism and toward an increasingly self-referential disengagement from the problems of society and "architecture as independent discourse."¹⁵

Although some of the 1960's era community design organizations, such as the Pratt Institute Center of Economic and Community Development in Brooklyn, survived the withdrawal of federal funding in the Regan era, most of these organizations had folded their tents by the early 1980's and for the most part the advocates of a "social vocation" for architecture were pushed to the periphery of architectural education. From a high of over 70 centers in 1971, just 16 design centers remained active by 1987.

The decade of the 90's, however, saw a re-birth of the community design movement. The Association for Community Design reports that community design centers can be found in more than 45 communities across the U.S. today.¹⁶ As in their first incarnation, many of these centers are associated with schools of architecture and are frequently staffed by faculty and involve students in community-oriented projects.

In addition to hosting community design centers, architecture schools have also begun to embrace the “service learning” model as a component of their curricula, often in the context of the design studio. Service learning is a teaching method which connects meaningful community service experiences with academic learning, and has been championed by some as a model for education reform at both the K-12 and higher education levels.¹⁷ In his survey of architecture programs utilizing hands-on construction, Bill Carpenter notes that many of these schools marry the design/build studio to a community service ethic, often targeting communities under-served by the professional design community.¹⁸

When married to a community service context, the design build studio presents a unique platform for addressing this challenge. In this context, students must meet both the challenge of organizing and executing complex collaborations within their teams, and must learn how to navigate the web of challenges associated with interactions with real clients. The author’s experiences of a year-long collaboration between Auburn University’s School of Architecture and the Alabama Association of Habitat Affiliates provides an illustration of the effect of the community-centered design/build experience on both the community and the students, and forms the basis for an examination of the design/build studio and service learning as vehicles for the realization of an enriched and expanded mission for architectural education.

Designhabitat: a Community-Based Design/Build Studio

In the winter of 2000, the author was approached by the director of Design Alabama, a non-profit organization which works to promote design in the state, with the idea of enlisting the support of the School of Architecture in a project to develop new design standards for Habitat for Humanity homes in Alabama. Several members of the Design Alabama Board of directors were aware that HFH affiliates in some Alabama communities had encountered resistance to the construction of their standard house models (ostensibly) on the basis of incompatibility with the architectural character of the community. The DA Board hoped to act as the sponsor of a collaboration between the School and the Alabama Association of Habitat Affiliates (AAHA) that would result in a new design standards that would respond to this concern as well as generally “improve the design standards” of Habitat homes in Alabama.

Like many of the schools noted earlier, Auburn’s faculty often incorporate hand’s-on building experiences into the studio as a means of enriching students’ understanding of the connections between design and the realm of materials and craft. The School also has an established culture of combining outreach and teaching, most notably through its Urban Design Center in Birmingham, and the internationally-recognized Rural Studio program based in rural west Alabama.

In preliminary discussions with AAHA and Design Alabama, it became clear that HFH affiliates would be reluctant to commit to an “untested” design, especially one proposed by students. So the author proposed that the collaboration be structured so as to include both the development of a new “prototype” design and the construction of the prototype by the same group of students. It was also clear that any design effort would have to be based on a clear understanding of Habitat’s goals and organizational culture as well as an understanding of the broader factors surrounding affordable housing. In response, the project was structured as a two-semester effort: a semester of research (in a seminar format) followed by a semester-long design/build studio. In the first semester, sixteen 3rd and 4th year architecture students and four students¹⁹ from Auburn’s Building Science program worked in teams to investigate five questions:

What is the organizational culture of Habitat and how does that culture influence the homes they build?

What factors influence the form and character of vernacular housing in Alabama communities (with an emphasis on “affordable” housing dating from 1900-1950)?

What are the typical construction technologies used by Habitat, and what alternatives should be considered (with a focus on foundations, wall and roof systems, cladding and roofing)?

What principles of sustainable design and construction could be best incorporated into the process of designing and building Habitat homes?

What lessons can be learned from prior collaborations between design professionals or architecture schools and Habitat?

The students met with four Habitat affiliates across the State and traveled to the home of Habitat of Humanity International in Americus, GA to meet with Millard Fuller, founder of Habitat, and other professional staff involved in establishing design and construction standards. The discussions with affiliate volunteers, Habitat homeowners, and Habitat leadership helped to give the students a profound appreciation for the accomplishments of Habitat and a clear picture of how the “mission” of Habitat would influence the design task that lay before them.

Among the most significant influencing factors revealed during these interviews was the emphasis within Habitat on construction homes with a pool of volunteers largely unfamiliar with construction. Given the intention that the students’ prototype house would be replicated by affiliates across the state, the emphasis on unskilled labor meant that the student’s could not develop the highly detailed and idiosyncratic solutions typical to the projects they had developed in prior design/build projects.

It also became clear that the design of Habitat homes was heavily influenced by the structure of the affiliate network. Because Habitat affiliates rely so heavily on volunteer leadership, the vast majority of the time resources were consumed by the daunting challenges of raising money, selecting and counseling homeowners and organizing the construction process. Affiliates simply did not have the time or resources to consider many design alternatives and thus defaulted to the design standards distributed by HFHI and those passed on from other affiliates. The combination of an emphasis on holding down construction costs and the time constraints facing Habitat leadership contribute to a resistance to innovation in both construction technologies and design standards.²⁰ The students concluded that the prototype proposal would have to be accompanied by “lay-person friendly” documentation and that any deviation from Habitat’s common procedures would have to be supported by a persuasive “why to” argument.

The students’ studies of pre-war housing from communities across the state revealed several elements to be common features of vernacular design, such as wood framed and wood clad homes with room-sized porches across the street elevation and long axis perpendicular to the street, raised foundations, metal roofs with a 7/12 to 9/12 pitch, double hung windows with 1:2 or 1:2.5 width to height ratios, and generally deep roof overhangs – design features which clearly developed in response to both the climate of the region and the construction materials and construction methods most readily available to the communities of Alabama.

The investigations into possible sustainable design standards and strategies for Habitat affiliates revealed broad potential for improvement, often by simply applying basic principles of energy conservation. While Habitat has been quite successful in educating affiliates about the importance of thermal insulation and the efficiency of appliances, the students discovered that little consideration had been given to natural ventilation or appropriate solar orientation and roof overhangs. It was clear that significant results could be realized if affiliates could be educated to the impact of these issues and equipped with the tools to factor these strategies into their decisions about site development and home design.

Habitat's commitment to eliminate sub-standard housing is awe-inspiring. In its zeal for this goal however, the emphasis on controlling initial construction costs (so as to enable the construction of more houses) has led Habitat into some construction practices and material standards which could prove to be burdens for Habitat homeowners as the homes age. The students reviewed the most common Habitat standards and found some to be of particular concern. For example, the typical Habitat home is roofed with 20-year asphalt shingles – a system that will almost certainly require replacement before the 20-year (0% interest) mortgage is repaid. Slab-on-grade foundations are also common, in spite of the fact that termite damage is a significant threat to all wood-frame construction in this region. The students observed that much of the existing stock of affordable housing in Alabama becomes "substandard" due to the inability of the low-income families to sustain the most basic home maintenance costs. Should not, they asked, Habitat expand its definition of "affordable" to include the incorporation of design standards such as metal roofs and raised foundations that would incorporate a greater degree of "built-in" protection from these types of risks at relatively small first cost impact?

The final area of research, precedents of collaboration between Habitat and design professionals and design students, revealed some of the most interesting lessons for the students. The most significant observations centered on the understanding that there would inevitably be conflicts between Habitat's objective of stretching its resources to enable the construction of as many houses as possible, and the architect's goal of making each house as well-designed and well-constructed as possible. It was clear that many efforts at collaboration had failed due to an inability of both parties to accept this idea. The examples of successful collaborations illustrated the importance of mutual respect for the goals of each party and the willingness to work through conflicts.

The study of collaborations also illustrated the critical role that communication plays in collaborative efforts. The feedback received from both educators and practitioners with prior "Habitat experience" stressed the importance of understanding that HFH is not one monolithic client but rather a group of stakeholders (homeowners, affiliate leadership, affiliate construction coordinators, material suppliers, house sponsors, etc.). The designers must often facilitate the resolution of conflicting goals among these parties and make a concerted effort to clarify the goals of the collaboration.

The results of the first semester's research was presented to an advisory group made up of representatives from the Boards of AAHA and Design Alabama, and Neville Eastwood, the Director of Construction Technology at Habitat International at the beginning of the 2002 spring term. The recommendations of the students were well received by Habitat and formed the program brief for the design/build studio.

Working initially in 8 teams of two, and then in 4 teams of four, the students spent the first five weeks of the spring semester on the development of four prototype home proposals. Each team was charged with the task of developing a 3-bedroom prototype home that responded to the goals for the project established in the research phase:

- The proposal must both provide a "simple, decent home" and "inspire the soul".²¹
- The proposal must be responsive to the organizational culture of Habitat ("volunteer-builder friendly" and buildable within HFH's budget of \$35,000 to \$40,000).
- The proposal must be responsive to the climatic and cultural context of Alabama.
- The proposal must incorporate the construction systems and methods recommended in the research phase (raised foundations, metal roofs, etc.)

- The proposal must reflect the appropriate use of sustainable design principles, including passive solar design strategies and be designed so as to lower the homeowner's dependence on energy consuming heating and cooling appliances.

As the design phase began, the local Habitat affiliate agreed to sponsor the construction of the first prototype house and selected a homeowner and a site for the project.²² The students met with the homeowner several times during the design phase (Image 1), presenting design updates on each scheme and soliciting her feedback on their proposals. They also met with representatives from utility companies (Image 2) and Habitat construction leaders during the design phase to obtain feedback as their designs progressed and to test the feasibility of their proposals. Students from the Department of Building Science continued their collaboration on the project by developing cost estimating tools and construction schedules and working with each team to "tune" their designs to the budget target.

Insert Image 1 here, caption: "Student design meeting with homeowner and Habitat volunteers"

Insert Image 2 here, caption: "Design review meeting with utility company advisors"

The four proposals were presented to the Habitat advisory group on February 11th, and one of the schemes was selected as the initial "Designhabitat House" (Images 3, 4 and 5). After presenting the designs to the news media the following day, the students regrouped into "team five" and produced permit drawings for submittal to the local building department the next morning. By weeks end the foundations for the project were complete and construction of the masonry foundation walls was underway.

Insert Image 3 here, caption: "Sarah Dunn presenting her design proposal to Habitat advisors"

Insert Image 4 here, caption: "The four design proposals presented to Habitat advisors"

Insert Image 5 here, caption: "Model of the scheme selected as the first prototype to be constructed"

As this paper is submitted, the students are framing the walls and preparing for the delivery of the trusses. The team-based work pattern established at the beginning of the project continues, as groups of four students are each assigned a "phase" of the construction process to plan (foundations and floor framing, wall and roof framing, cladding, roofing, etc.). This responsibility includes design development, material takeoffs, and the leadership of on-site work for that phase of the project. Parallel to the construction effort, the students are developing a project history (schedule, materials, man-hours, etc.) and a package of documentation to be published at the end of the term and distributed to Habitat affiliates across the state.

Note to readers: While the project is still in progress and "conclusions" at this point would be premature, I believe some relevant observations can be noted. The project schedule will allow more in depth assessment and reflection prior to the October conference.

A Community-Centered Studio

One of the common ways that community engagement influences projects such as the one described here is the transformation in the students' minds regarding *who* they are designing for. In essays written at the conclusion of the project, the students consistently cited working with the Johnson family, and the larger group of "advisor/clients" from Habitat as the source of the most meaningful learning experiences of the project – experiences which transformed their perception of the studio as well as their understanding of their role as future architects.

In all 4 years of being at Auburn and doing studio projects, I have never been able to really understand the client as well as I have on this project. Being able

*to have so much interaction with the Johnson family while designing and building has given me a clearer and more meaningful idea of what being an architect means. Because of this interaction I feel that I have gained a valuable skill of being able to put myself into the client's shoes with more sensitivity and purpose.*²³

*Studio has always been an outlet for self expression, never an inlet for client feedback. It is easy in studio to forget about the "client". The Johnson family granted me a new and refreshing view of what architecture really is. Architecture is a about people and how our ideas play an important role in their lives.*²⁴

The understanding that they would ultimately be designing for a "real" client – that their research and proposals would be presented to clients who *trusted* them had a gradual transforming effect on the students, deepening their commitment to 'getting it right', and to communicating their thoughts clearly to a lay audience. As illustrated by the quotes above, the engagement with the Johnsons and our interaction with Habitat pushed the focus of the studio to expand beyond the traditional focus on *form and technique* to include a meaningful discussion of architecture's *purpose*.²⁵

*The fact that we were exposed to more than one client at the same time was one of the great learning experiences in the studio. (In discussions with a visiting lecturer), we discussed how having a design build studio in the manner that we did, mimicked the real world as much as was possible in academia, and maybe even more because we were not only dealing with and individual client, but the 10th largest homebuilder in America, which is a hell of a big client to convince to change. We learned how to coax an elephant into the water without it knowing it was getting wet in our dealings with all of the Habitat partners, which alone was enough to take from this semester.*²⁶

The client interaction also presented the students with insights into how complex the social aspects of the project process can be. As the fall semester drew to a close the students were clearly eager to turn their minds to the design task. Conscious now that there were potential tensions between Habitat's policies and the desires of the homeowners, they pressed Habitat to identify the prospective homeowner so that they could better understand where these pressure points might be. It was clear that the students were confronting the challenge of reconciling the different (and sometimes conflicting) influences of multiple stakeholders – a challenge common to architectural practice but rare to the traditional studio.

*I realized how caught up in architecture terms we can get in studio. You have to be able to explain your design to clients in a way that they can understand it. Big words and architecture jargon just confuse the hell out of them.*²⁷

Over the course of repeated interactions with, and presentations to, lay audiences the students also faced the challenge of translating their values and beliefs about design and design issues from the meta-language of studio into terms that could be understood by their client. They were also challenged to articulate a "why to" line of reasoning, in contrast to the "what to" and "how to" arguments typical to architectural presentations.²⁸

A ... Design/Build Studio

This semester has been a source of rejuvenation for me. I leave the work site everyday excited about what we have done. I am excited by the little things. I have been watching how pieces go together and how they affect one another. I am curious about architecture once again. How will this ceiling height affect the feel of a room? Is there enough natural light in this space? Is there too much? What are

*the results of placing a window here? These are questions that once interested me; then did not; and now do once again.*²⁷

*Never before have I been able to completely understand a wall section. Building one from the ground up changed everything.*²⁷

The design/build format offers students the opportunity to translate their ideas about form and program response into a rigorous and demanding tectonic proposal, and then test that proposal "in the field". These students had never been challenged to consider issues of cost, material limitations, and the skill-level of the constructors. The design/build format presented all of these issues as subjects *within the realm of architectural design* and therefore within the domain of the architect. To often these issues are never introduced into the students experience of design and as a result are seen as foreign to (and in conflict with) the aspirations of architects.

*The challenge of working as a team was one experience that has had the biggest impact on both my architectural and personal thought process ... I think group work requires a different kind of designer and communicator than the usual studio designer.*²⁷

The design/build format, when applied to a studio of this size (sixteen 3rd and 4th Year students) presents the collaborative process in a different light than the traditional studio, where the principle activity to be shared is design. In the design/build context the students must share a significantly broader spectrum of tasks and roles, allowing students to measure their skills in tasks such as oral presentation, writing, technical development, and work planning and organizing their teams to take advantage of the best talents of their group. The task of organizing the studio to complete specific phases of the house construction introduces the students to the challenge of thinking beyond what *they* plan to do next – the typical form of time/task planning they've experienced – to considering how they will make best use of the resources and talents of the whole studio (as well as manage the groups of outside volunteers that want to help construct the project.) This experience of the collaborative process adds significant depth to the students understanding to how creative teams work, the breadth of skills needed to accomplish even the most modestly scaled projects, and to the leadership challenges faced by architects in collaborative practice.

Conclusion

*"...architectural education has an obligation to address the significant social, environmental, political, and economic problems that confront us... To address these broader social and environmental problems will require skills beyond those offered by the traditional curriculum. Tomorrow's students will need to be adept at resource conservation, sustainable building practices and technology, community participation, and collaborative problem solving"*²⁵

In response to the work produced in the initial phase of the project and the design work the beginning of the spring term, the Alabama Association of Habitat Affiliates has committed to building 50 of the Designhabitat house across Alabama over the next four years. While the project is still in progress, it is clear that utilizing the format of a community-based design/build studio offers a powerful venue to expand the focus of the studio to a broader discussion of how we make architecture and how our talents can be applied to the significant problems that confront our society. When properly structured, these studios present students with direct experience of the connections between design and the craft of making architecture. They offer the opportunity to present community engagement in contexts where that engagement has meaningful consequences, and they offer the opportunity to teach students the value of collaboration as well as the skills to succeed at it.

If we are to expand the skills our students bring to the challenges of practice, and give hope to the mission of reinvigorating the role of architects in our society, then we need to understand this approach to teaching, and the many other successful examples like it, not as laudable anomalies, but as valuable clues to the future of architectural education. It is ironic, and comforting, that the clues to the future of our educational mission might lie in the undercurrents that have flowed through our past.

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14. Ibid.
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16. The Association for Community Design (ACD) maintains a web site that offers an outline history of the community design center movement and provides links to its member centers across the U.S. The statistics reported here are from the ACD web site: www.communitydesign.org
17. Duckenfield, M & L. Swanson, *Service learning: Meeting the Needs of Youth at Risk*, National Dropout Prevention Center, 1992
18. Carpenter, William
19. The students who participated in the DesignHabitat project are:
 - Katie Bryan
 - Travis Burke
 - John David Caldwell
 - Lance Davis
 - Sarah Dunn

Matt Findley
Amanda Goolsby
Asif Haque
Charlie Jorgensen
Paul Kardous
Robert Maurin
Bert Mitchum
Mark Peterson
Jamie Pfeffer
Christopher McRae
Emily McGlohn
Patrick Nelson
Seth Rodwell
Jason Schmidt
Seth Smith
Brandon Smith

My principle collaborators in the project were:

Prof. John Mouton, Department of Building Science, Auburn University
Karen McCauley, Alabama Association of Habitat Affiliates
Karen Seale, DesignAlabama

20. The characterizations of Habitat used here are generated by the author's work with Alabama Affiliates over the course of this project and reflect the "Alabama Context" most directly. Discussion with these HFH leaders and with selected affiliate leaders in other states confirm that the conditions common to Alabama are shared by many affiliates.

21. The use of these two phrases acknowledges the mission of Habitat and the influence of Samuel Mockbee. "Sambo" has been a profound influence of the students and faculty at Auburn and his belief that housing for the poor "must be warm, dry, and *noble*" helped frame our objectives for the project.

22. The local HFH affiliate is Lee County Habitat for Humanity. The homeowner of the first DesignHabitat home will be Nancy Johnson and her four children, ages 5 – 16.

23. Rodwell, Seth . This quote is taken from a final essay assigned to all students in the studio. Reflection on the impact of the experience is a central tenet of the service learning methodology, and was incorporated into the DESIGNhabitat studio in the form of a series of essays addressing the critical facets of the studio.

25. See "Why the Future of Architecture Does Not Need Us" by Lance Hosey on the *IN THE CAUSE OF ARCHITECTURE* web site for more on the *technique vs. purpose* discussion. (<http://archrecord.com/InTheCause/0602ArchiFuture/archiFuture.asp>)

24. The "why to" versus "how to" phrases used here are borrowed from Sharon Sutton's essay "Architecture as the Practice of Intellectual Leadership", *Practices 5/6*, Center for the Study of Practice, 1997, pp. 30-31

25. This quote is taken from an early draft of the ACSA Strategic Plan reviewed by the author in September, 2001