

Design/Build Mexico Program: Addressing the Built Reality of Latin America

SERGIO A. PALLERONI
University of Washington

This paper examines the pedagogy and the experience of six years in the field of the Design/Build Mexico Program. This program works from the thesis that the informal sector, which accounts for 90% percent of construction in many Latin American countries including Mexico, is not only the reality in which a significant educational experience in architecture should be founded and the source of a fundamental critique of the current state of high architecture in developing countries. The continued existence in these countries of the informal sector speaks both to the shortcomings of the 20th-century national projects of Modernity and of the resilience of traditional cultures and their ability to provide for their own needs. This paper will therefore describe our field experience with these communities in Mexico as pedagogical model and case study, on which a possible broader comparative model of collaboration between schools of architecture and Latin American communities can be built.

The program offers the student and academic, a hands-on collaboration with these communities in the building of needed facilities and the resolution of strategies for the long-term cultural and physical sustainability of their settlements. In this program this collaboration is based on the understanding that in Mexico the act of building in the informal sector constructs communities- and identity, a tradition which binds today's Mexicans with their culture's history and values. Our understanding and respect of these cultural values, and the social protocols they help establish allow us to participate in the communities experience of building and their struggle for long-term sustainability.

The program's contribution to the informal sector is in response to the urgent physical needs of the impoverished and indigenous communities of Mexico, many of which in the last two decades have come to live as squatters at the edges of rapidly expanding cities. Design/Build Mexico thus provides a forum for interdisciplinary, and intercultural, collaboration to help solve these problems. In the last six years the program has built four public facilities and grown to include students, faculty and professionals in conservation biology, planning, social services, medicine and civil engineering, as well as students in architecture and landscape architecture from the US, Mexico, Chile, and Colombia.

The program offers this educational opportunity in two different settings in Mexico, in San Anton, Guerrero, with indigenous farming communities attempting to maintain their traditional way of life, and in Tejalpa, Morelos, in one of the largest and fastest growing squatter settlements in North America.

DESIGN/BUILD MEXICO PROGRAM

For many decades, architectural educators and practitioners have observed with increasing alarm the decline in significance

of architectural work. Especially acute is the diminishment of architecture's power for social and cultural transformation ... Our profession, verging on irrelevance, has reached a critical juncture. Architecture schools must move quickly to respond seriously to the complexity of divergent and varied social demands.

— Frances Bronet, "Book Review: Voices in Architectural Education: Cultural Politics and Pedagogy, Thomas A. Dutton, ed." *Journal of Architectural Education* (September 1995)

No single act can capture the complex dynamic between architecture and culture. To live and work in a community grounded in a tradition of building, to be conscious of culture and its relationship to the physical environment, to design cooperatively with fellow architects, and to use one's own hand to bring a design through its completion as a built work can begin to touch on the essence of architecture's place in society

DESIGN/BUILD.MEXICO is an interdisciplinary foreign study program which involves students directly in the design and construction of community-based projects in Mexico. The program began as a response to the urgent physical needs of marginalized communities developing on the outskirts of rapidly growing cities in central Mexico. The problems are grave; the lack of a basic physical infrastructure creates areas with little clean water or paved roads, poor sewage systems, few public or open spaces, and no local school or governmental facilities. But communities exist despite the deficiencies because they retain their cultural traditions of building, public life, and shared responsibility.

As a curriculum for architecture students, the mission of the program is to teach a process for understanding this distinct culture, climate, and building tradition and the realities of developing a design into the physical presence of a building. The program becomes a forum for students to integrate and apply their knowledge and skills. In turn their work contributes to the development of a sustainable model for living in this place, in this culture.

NATURE OF THE PROGRAM

A tree. A colorin tree whose flowers are harvested by locals for making dyes and traditional winter food. It stands as the lone impediment to three classrooms of a primary school for children who have no place to learn. To save it means to set an example against deforestation and for the preservation of local, sustainable resources. To remove it could save thousands of scarce dollars needed for construction.

The fate of the tree has to be decided upon by thirty students near the end of their architectural education, many of whom are working in

a group for the first time. The situation exemplifies the challenges encountered by students during DESIGN/BUILD.MEXICO. This interdisciplinary program removes students from their own familiar culture to force issues such as these to the forefront of their minds. At the end of ten weeks, they will have helped to create a building that belongs to the community. Along the way students discover the potential of the group's collective knowledge.

The program integrates intellectual explorations and first-hand experience giving it a richness and realism not often found in the traditional design studio. The schedule is demanding. Students spend the first two weeks of the quarter investigating the physical and cultural characteristics of Mexico, documenting the site and programmatic requirements, and engaging in group design charrettes. The schematic design and construction plans are shared and critiqued with the community, marking the beginning of 8 weeks of "design/build." Each student spends five days a week working on site and one day on a group field trip. Seminars, design and documentation fill at least five evenings per week.

The class divides into small groups each of which takes responsibility for the completion of a portion of the project. These work groups convene each morning to discuss their progress and to ask for help when necessary. The process of consensus-building in the initial design charrette provides students with a common basis from which to discuss and develop ideas. In this process, the community acts as both client and collaborator to insure that the project addresses both immediate and long-term needs.

PROGRAM HISTORY

To create a successful community project takes years of development. Each year students re-evaluate the built work of previous years and its success in the community. Continuity is essential. The first DESIGN/BUILD.MEXICO was offered in the winter quarter of 1990. It consisted of twenty students, mostly graduate architecture students combined with two landscape architecture students. They made the first student contact with the informal settlements of the Valley of Morelos, and were presented with a plot of land set aside for a school, which they completed in 1992. In 1994 this project became a full-time academic program with research, planning and building components shared among several disciplines at the Design/Build's US university and the Latin American universities collaborating in the project. In 1997 the Comparative Architectures Project was established with the stated intent of:

...providing fieldwork opportunities for academics and students to collaborate with communities in the developing world. The ethical imperative of the project is to develop reciprocal relationships between program participants and local communities, with the primary objective of making possible the long term sustainable survival of community and culture.

For students wishing for a greater involvement the program now offers an accredited advanced master's degree in architecture and a certificate program for other students in the design curriculum or other disciplines. This new degree is intended to create greater depth and continuity for the projects by involving students interested in a one time experience with those conducting research and advanced degrees in the field.

CHRONOLOGY

1994—Studies in the Material Culture of Mexico

This initial study was supported by a Graham Foundation grant. The study identified traditional materials, their uses in different construction technologies, and their association to rituals and cultural systems of meaning for the native peoples of the central highlands. The results helped establish the cultural and material parameters of the design/build program in this region and the protocols by which the studios could relate to the cultural act of building with local communities.

1995 – Two Primary Schools in Tejalpa, Morelos

DESIGN/BUILD.MEXICO was created in response to a call for help from community organizers in the informal settlements of Tejalpa. In support of the locally-initiated effort, graduate and undergraduate students from both architecture and landscape architecture worked for three winter terms alongside community members and local *maestros* (master builders). The result was the design and construction of two primary school for 360 children and public garden spaces for the wider community. Each site now contains six classrooms in two passively cooled buildings, faculty offices and library, a large community water cistern, a *kiosk* (pavilion) decorated in tile mosaic, a play court and native plant learning garden, communal pathways and a bridge.

1997– Ecological Development in San Anton

In 1996, students from the Department of Landscape Architecture took part in a master planning studio to help the traditional indigenous villages of the San Anton region to protect their ecological and agriculture systems from the urban sprawl and contamination of Cuernavaca. In collaboration with the departments of civil engineering, ecology, conservation biology, and architecture, work will continue on the economic development and preservation of this region with design/build studios.

1997 – Educational Facilities for the Platanitos Bio-Reserve

This project is part of a larger collaborative effort by the Ministry of Ecology in Mexico and the World Wildlife Fund to protect the important whale and turtle mating grounds on the northwest coast of Nayarit, Mexico. The goal of the design/build project is to incorporate the traditional village of Platanitos into the efforts of ecological study and preservation. A primary school and interpretive center for Platanitos are planned to support the local community and provide educational programs for the bio-reserve.

1998 – Community Health Centers, Tejalpa

These clinics/community health centers will provide much needed medical assistance (both traditional and modern) to families in the informal settlements of the region. Organized and built in collaboration with women's groups of the area, the clinics will also offer a forum for education on the issues of sustainability, bio-diversity, and their association to personal health. A project of architecture collaboration with students and faculty from the schools of medicine, public health, and ecology (first project offered under the auspices of the new Comparative Architectures Project).

PROGRAM'S PLACE WITHIN THE CURRIVULUM

Students who are near then end of their undergraduate or graduate studies in architecture, landscape architecture, urban planning, and building construction are eligible for the program. In addition a third of the students come either from disciplines relevant to the project, which at the present time include, medicine, geography, urban ecology, civil engineering, and conservation biology or from collaborating architecture faculties in Chile, Colombia, and Mexico. Participants are selected on the basis of scholarship, preparation, motivation, and emotional maturity. No previous building experience is required, though a willingness for hard physical work is necessary.

DESIGN/BUILD.MEXICO offers a set of courses which support the primary activities of designing and building. These courses allow architecture students to fulfill departmental requirements in theory or socio-cultural studies and electives in design, sketching, and construction documentation. Students earn 15 credits for the quarter:

1. Design Studio ARCH 506 (6 credits)
The Design/Build of Community Facilities
2. History and Theory Seminar ARCH 498 (3 credits)
The Cultural Construct of Mexican Space

3. Architectural Sketching ARCH 415 (3 credits)
Field Documentation as a Design Investigation
4. Independent Studies. ARCH 600 (3 credits)
Construction Technologies and Documentation

Teaching students to work with each other in order to help clients who are involved and appreciative provides a model for how the profession might ideally operate. This model is important in the transition from the individualism of school to the collaborative environment of the profession and is reinforced by the cooperative model and efforts of the community.

EDUCATIONAL GOALS AND TEACHING STRATEGIES

The goal of the program is to engage students to experience architecture as a cultural activity. To achieve this goal the course pursues the notion of architecture and sustainability as a much larger construct which is inclusive of socio-cultural conditions, as well as its more traditional definition within technology, history, and formal composition. The program stresses the necessity to understand, connect, and integrate various disciplines in the act of making public architecture. The program teaches a process in which abstract concepts as well as material facts are communicated and critiqued within a 'cooperative' of architects. Creating the identity of group allows the students to achieve the project goal as well as to understand the community as an homologous situation, with all its strengths and complexities.

The coursework supporting the design/build studio helps contextualize the students to their new environment with investiga-

tions of the phenomena of Mexican space, studies of Mexico as a comparative culture, and research into building technologies appropriate to the regions in which the project take place. The richness of this program lies in the individual realizing the potential of the group both in its ability to create a significant building, and as a means towards cultural understanding.

EVALUATION METHODS USED TO ASSESS STUDENT WORK

Due to the collaborative nature of this program assessment occurs continuously as a natural outgrowth of critical discourse established in both the design and the building phases of the project. Student assessment of themselves and each other may be the most powerful form of evaluation. The experience of group design appears to have been seminal to many students who have returned to their native country (both in the US and Latin America) with a desire to continue in this vein both in school and in their professional lives.

Formally, individual students are evaluated by faculty through assessing their effectiveness as leaders and as members of work groups and their ability to synthesize and communicate ideas during design and construction. In addition, students keep sketchbooks and journals recording their observations and reactions to seminar readings and discussions which are read and considered. Ultimately the students and the program itself are judged by the success of the building and site developments: the community's response in terms of use and care and the building's contribution to the sustainability of the community.