

Crossroads: New Methods in Environmental Education

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SUMMARY

Crossroads is a course focused on decision making in a much broader context than is conventionally associated with Architectural education. This was accomplished by having students work on a small but complex design problem while simultaneously building a broad knowledge base through discussions and lectures in the field. Persons ranging from indigenous peoples, to biologists and politicians were invited to speak to the students, on the actual grounds being discussed. The complexity of the issues presented was designed to provoke an ethical struggle in the students. How they would approach a site in an enlarged context? Field work also included hiking, rock climbing, and a day working with traditional stone masons. Video documentation was employed throughout the course in order to assess the changing attitudes and approaches of the students. Preliminary analysis of the video shows promising results.

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1. A NEW EXPERIMENT IN ENVIRONMENTAL EDUCATION

Crossroads is an experiment in environmental education for design professionals; the course located environmental questions within a broad physical, cultural and political framework. Crossroads was first offered to Graduate and Undergraduate Architecture and Landscape Architecture students at the Rhode Island School of Design during the winter of 2007. The course was offered during “Wintersession”, a short semester intended for experimental and intensive work; in the case of Crossroads, six credits in six weeks. The studio was conducted in Southern Utah, a very ecologically sensitive region that is under development pressure. Included were students from the all regions of the USA as well as students from Japan, Korea, Poland, and Turkey. The majority of the students were in the masters program at the Rhode Island School of Design, though three students were undergraduates, and one was a special student on leave from corporate employment.

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Underlying the course is the simple premise that design professionals are a key link in improved land use and environmental decision making. This is accomplished through either simple direction, or in some cases, by making an ethical stand. If there is one plea to be made it is that the context of professional education is expanded, not only for architects, but for engineers and land surveyors. Increasingly, the aforementioned professionals are being placed in roles that exceed the professional boundaries associated with their specialties. Moreover, these professionals are key collaborators in the development process, and are a critical interaction point between economy and environment. If we are to “re-contextualize” environment, and by necessity economy, design professionals will play a key role.

2. PHYSICAL CONTEXT

2.1 Washington County Utah

It would be impossible to detail the full breadth of land use issues facing Southern Utah in this format. A brief summary of the facts on the ground, however, is helpful in understanding why Southern Utah, and specifically Washington County, is an excellent location for an experiment such as Crossroads. In comparison to the larger world, the population is extremely small. This compactness combined with the complexity of the local environmental and political conditions make it comparatively easy for students to quickly appreciate the larger system of interactions.

2.1.1 Statistics Land Distribution

Washington County, which encompasses the city of St. George, has a land area of 2,426 square miles, 1552640 acres, approximately 628331 hectares. Population density per the 2000 US Census was 37.2 persons per square mile, .6 persons per acre, or .14 persons per hectare. Current population is estimated to be in the range of 130,000 persons, based on projected growth rates. Average rainfall is 8.14 inches, and river flows vary radically by season and by year.

The distribution of land is as follows:

Federal, 78%

- 45% Bureau of Land Management, 700000 acres / 283279.9 hectares
- 25% Forest Service, 380000 acres, 153780.5 hectares
- 8% National Park, 125000 acres, 50585.7 hectares

State, 5%

State of Utah, 75,000 acres, 30351.4 hectares

Private, 15%

Private lands, 236000 acres / 95505.8 hectares

Sovereign, 2%

Indian (Native American) Reservations, 27,000 acres, 10926.5 hectares

The above statistics are widely published in Federal, State, and County documents.

The division of land, like that of the entire Western United States, is based upon a Cartesian grid of Townships containing 36 one square mile Sections. In many instances the location of the various divisions are made irrespective of the conditions on the ground. This is especially true of the State's School and Institutional Trust Lands; the enabling act of 1894 that led to Utah's Statehood in 1896 specified that sections two, sixteen, thirty-two and thirty-six of each township be reserved for the aforementioned trust.

2.2 In-migration

Like the larger region between the Sierra and Rocky Mountains, commonly referred to as the Intermountain West, Washington County is under intense development pressure. In the past half decade, Washington County has consistently been among the fastest growing counties in the United States, with growth rates reaching 6%, per county statistics. Rapid growth is largely driven by persons migrating in search of a higher quality of life and lower cost of living in their retirement years. Extractive and agricultural industries make up increasingly negligible segments of the economy while retirement driven by tourism continues to expand. The shift in economy, combined with in-migration is bringing about further demographic and political changes.

2.3 Ecology

The area surrounding St. George Utah, the largest city in Washington County, is an ecotone, a transitional area between three very distinct ecological communities that exhibits overlapping characteristics. The Mojave Desert, the Colorado Plateau, and the Great Basin Desert connect within the settlements surrounding the city of St. George. The region is host to several threatened and endangered species, including the desert tortoise. Notably, tortoise densities are higher in the St. George area due to the transitional nature of its ecology. Invasive species such as cheat grass are radically transforming the ecology of the area and are closely associated with development.

2.4 The Wilderness Debate

In addition to development pressures, conflict over the continued use of public lands is ongoing. At the core of this debate is the status of roads that fall under an 1866 mining statute known as RS (revised statute) 2477. RS2477 was repealed by the Federal Land Policy and Management Act of 1976. Designation of wilderness requires an absence of roads, and the interpretation of what constitutes a road as defined by RS2477 prior to 1976 is critical to both those arguing for and against wilderness designation. The most vocal proponent of wilderness, the Southern Utah Wilderness Alliance, is proposing that 300000 acres, or 121405.7 hectares be designated as such. Proponents of grazing, mechanical recreation and extractive industries largely oppose these designations. Again, the above dates and statistics are widely published and commonly agreed upon.

2.5 The Larger Picture

The title of the course, Crossroads, is intended to be evocative of the condition of Washington County, a place under severe development pressure, and at the center of a national debate regarding public lands. The title is also intended to be evocative of the larger question of our relationship to the environment, and our collective futures.

3. SEMINAR

3.1 Pre-Course

Prior to the course, Students were asked to read Mark Reisner's book, Cadillac Desert. This now classic text details the history of water development (and by extension development) in the Western United States.

3.2 Arrival

Upon arrival in Utah, students had several days to get accustomed to the area, to enjoy its beauty, and to learn their way without guidance. This period of gentle introduction was considered a critical part of their being able to formulate their own positions in relationship to the content of the class.

3.3 The First Speaker

The first speaker encountered was Glen Rogers, Chairmand of the Shivwitz Band of Paiute Tribe. As the students stood on the Shivwitz Reservation, shivering in the cold, Glen calmly said, "it is winter, you are supposed to be cold." This moment seemed to ground the entire group in the physical place. Glen, who is both full blooded Paiute, and a member of the Church of Jesus Christ of Later Day Saints, the, provided a very sound introduction to the complexities of the area. Throughout the semester, additional speakers were introduced to the class for intensive sessions.

3.4 Seminar Schedule

The entire schedule included:

- Pre-course, Required Reading: Cadillac Desert
- January 9th, Neighbors to the chosen sites
- January 10th, Glen Rogers (previously mentioned), on the Paiute and lands of the Southwest
- January 11th, Ted Knowlton, Envision Utah, on the value of broad based and inclusive planning processes under way in the area
- January 13th, Southern Utah Paiute Oral History Project
- January 15th, Chaitna Sinha, Southern Utah Wilderness Alliance, an argument for wilderness
- January 16th Tom Moody, Natural Channels Incorporated, on the hydrological systems of the area
- January 17th Citizens for Dixies Future (non-profit board meeting), discussion of alternative water policy
- January 18th, Film Presentation Cadillac Desert, discussion of the book
- January 20th, Steven Parker, UNLV Political Science Professor, on the intersection to Federal Policy and land use

- January 21st, Benson Whittle, master mason, on the history and nature of working with stone
- January 23rd, David Eaker and Cheryl Decker, Zion National Park, on the relationship between national fire policy and invasive plants, including discussion of experimental practices
- January 25th, Peter Stempel on the effects of development on the ecology of the river
- January 25th, Rob Perkins, filmmaker, on his project to travel the Colorado River
- January 30th, Lori Rose, Red Cliffs Desert Reserve, on the habitat conservation plan for the desert tortoise and other species
- February 3rd, Dean Woods, Zion Rock and Mountain Guides, rock climbing
- February 6th, Alan Gardner, Washington County Commissioner, on the use of Federal Lands
- February 7th, Feast with Rob Perkins, film maker

In addition to the formal program students interacted with the local community and participated in community events.

3.5 The Political Nature of The Question

Great care was taken to include a truly diverse array of voices within the course. For my own part, I acknowledged my position as a partisan within many of the debates at hand. I readily acknowledge that the ability to coordinate the array of voices participating in the course comes from my own personal political involvement in many issues. With that said, the content of the seminar was almost entirely delivered by the invited speakers, who represented an array of positions within a larger political continuum. My role as instructor was reduced in some degrees to that of coordinator.

4. THE DESIGN PROBLEM

The design problem ran concurrently with the seminar. The Students were presented with two sites. Both sites are located in the town of Springdale Utah, and are currently in the preliminary phases of development.

4.1 The Sites

4.1.1 The Foothills Site

The first site is in the foothills surrounding the town proper. This area is characterized by radical variation in topography, dry washes subject to occasional flash flood and debris flows, and poor soil conditions. Despite these characteristics that recommend against development, the site is closely related to existing infrastructure, and already exhibits considerable disturbance. While no archeological sites exist in the site proper, other similar sites in the area do contain archeological sites. Total land area is 25 acres, or 10.1 hectares.

4.1.2 The Pasture Site

The second site is a pasture located in the center of town. It is among the last remaining agricultural parcels in the town proper. The site carries significant cultural and historic weight as an open space within a growing town. The site is completely altered from its natural state, is largely flat, and exhibits characteristics favorable to building. The site is adjacent to numerous retail establishments, including café's and a bank. Total land area is 4.75 acres, or 1.9 hectares.

4.2 Site Concerns

By contemporary development standards, both sites are extremely small. The small size belies their complexity. An incomplete list of site concerns includes:

- cultural heritage
- invasive species
- soil / slope stability
- run off
- water consumption
- wildfire
- floodway / floodplain
- land value
- density
- economic displacement
- community sustainability

4.3 The Purpose of a Site

Students were presented with a site in order that they “be” in a position of action while being exposed to the seminar content of the course. By acting on a complex site, students had to contend with the consequences of their decisions. As seminar content was delivered, students then were put in a position of questioning and reconsidering their previous work. This process of decision and reconsideration had the further benefit of forcing each student to take positions in regard to the seminar content, synthesizing it into their work, and their own ethical framework.

4.4 The Near Absence of Program

The programmatic requirements for the project were purposefully weak. Within each site, students were given free choice of uses permitted by zoning within the town, provided that they created a comprehensive master plan, and in some way understood human occupation within the site. The second stipulation may seem minor, however, the very presence of this stipulation makes an important point regarding land use: even in the absence of “development” the presence of people, directly or indirectly, is a factor in all lands.

4.5 An Argument against Simulating Practice

Students were made aware of local codes, but given the freedom to exceed or otherwise modify them. As a teacher and a practitioner I believe strongly that education must teach what practice can not. Practice provides myriad opportunities to learn how to navigate complex regulations. In this instance it was most critical to expand the limits of the question to allow for individual students to make a stand based upon their own decisions (as opposed to relying on the minimums and maximums of a code). Otherwise, the expanded context to which they were exposed would be subverted by reliance on technical standards.

Similarly, students were given a gross understanding of the land values and economics of the sites on which they were working. While they were not officially held to any financial standard, most students on their own accord sought to make projects that were in some way feasible, and a substantial majority came close to doing so.

5. ASSESSMENT

5.1 Video Procedure

Eight hours of conversation and interviews were conducted throughout the semester, including one hour of interviews conducted independently of the faculty and speakers by a third party. These third party interviews were designed to allow the students to express themselves freely, without being immediately influenced by the instructor.

Out of 120 direct contact hours, eight hours were recorded in total. While this is less than 7% of the total class time, care was taken to ensure an even sampling of conversation. Interviews and group de-briefings were similarly spread throughout the semester.

5.2 Preliminary Findings From The Video Tape

While comprehensive review of the video tape is ongoing, some very clear results of the course methodology are already apparent.

5.2.1 The Learning Ramp

Although the total course encompassed 6 available weeks, the most intense shifts in opinion or approach occurred within the first two weeks of study. Care was taken to allow students to day dream and absorb the sites for several days before beginning the seminar. Although many students were immediately sensitive to the formal characteristics of the site, they had a more difficult time grasping questions of land use.

Upon further immersion in the town of Springdale, the same individuals began to question whether development should occur at all, reflecting local sentiment. As time progressed however, larger ecological questions began to take precedence. Within two weeks the majority of students had worked between extremes, and arrived at a compromise position that

then slowly evolved for the remainder of the semester. With partial information, students were able to infer a much larger context.

5.2.2 The Value of Comparison

By the third week, students were actively drawing inferences and comparisons to the places they came from. Students who had experienced political fights over land use in different regions of the country reflected on those experiences, and began to exhibit empathy with positions outside of their own. At first review, there is a good deal of evidence to suggest by comparison, students would approach land use in other areas differently than they might have in absence of this experience.

Students who had been raised outside of North America struggled to understand the relationship between land use and the larger system of government. In one case, a student continually related their experience with practice in their own county. Another indicated that she had never been exposed to such an expansive understanding of practice. Projects presented by students raised outside of North America exhibited stylistic differences in approach that warrant further examination.

5.3 Commonalities

Although the ultimate projects exhibited a great deal of creativity and individuality, there are several traits that commonly appeared, regardless of site:

— A desire for publicity. While most students segregated their sites into public and private zones, the desire for clear public access to open space was clear. While this was especially true of the foothill site, it was also true of the pasture site. Moreover, this access was clearly articulated, and formally disposed in such a way that it was not “controlled”.

— Use of Density. While some students opted for lower densities, the majority employed density to reduce land disturbance, preserve large areas of open space, and create stronger community relationships. In several cases, especially on the pasture site, students opted for super density, greatly exceeding the town’s limit; while in only one case did a student opt for very low density. In the case of the low density project, it should be noted that the land was put to public use.

— Variety of housing types. With almost no exception, students questioned the paradigm of single family housing common in the area. Where single family dwellings were created, they were created in close proximity to each other. More than one student who opted for super-density did so in order to make alternate housing types economically feasible. There was over all a great deal of sensitivity to housing affordability.

— Disturbance. In several instances, students questioned the paradigm of limiting land disturbance by generic regulation; they created areas of significant disturbance in order to

achieve larger goals of open space and habitat preservation. In all but one case, these disturbance areas were closely associated with existing development.

— Leverage. More often than not, students sought to locate program of use in provocative ways, attempting to suggest or influence off site land use. The transitory nature of land use and succession of uses was recognized by the vast majority of students.

In nearly all instances, students arrived at sophisticated conclusions that clearly resonated with better growth practices. More importantly, students made choices that required an ethical decision making process.

6. PRELIMINARY CONCLUSIONS

Close examination of the video tape is still underway. Among the most heartening results is the revelation that students correlated their experience in Southern Utah to their own life experiences. Such reflection and insight suggests that an experience such as Crossroads has the potential to strongly influence a young professional's understanding of context. If nothing else, an awareness of the complex cultural, ecological, and political situations that surround our professions will be valuable. One student who was on exchange from Japan has already written of her intentions to report and incorporate what she has learned in her professional life. This is significant in that this student is presently employed by a multinational corporation engaged in housing development.

While young professionals rarely have the capability of making the sorts of decisions made in this course, improving their ability to make decisions has incredible potential. Most definitions of being a professional include conforming to the technical or ethical standards of a profession. We often speak of ethics in regards to professional practice and standards; Crossroads was an experiment in giving students grounds to make ethical decisions in regards to the work they are asked to do. A large part of creating these grounds is expanding the context of our decisions.

It is time for us to get back into the world.

BIOGRAPHICAL NOTES

Peter Stempel is an Architect that maintains a multidisciplinary practice in Southern Utah. He is a member of the adjunct faculty of the Rhode Island School of Design, where he has been teaching for more than ten years. He is also a founding board member of Citizen's for Dixies Future, a non-profit group dedicated to promoting better land use in Southern Utah. He is a member of the American institute of Architects and the US Green Building Council.

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