

Educational Philosophy

"The goal of life is living in agreement with nature."

--Zeno (335 BC - 263 BC), from Diogenes Laertius' *Lives and Opinions of Eminent Philosophers*

- How is the role of the designer essential in contributing to a more sustainable world?
- What fundamentally matters in educating designers?
- What does "the designer as a leader" look like?
- How can the design profession counter its tendency towards marginalization, fragmentation and specialization?

Only by bringing a very different approach to architectural and design education can we do more than pay lip service to the notion of sustainability in its broadest manifestation. Ultimately we need to educate design students not only in the technical skills essential to the practice of their profession, but also to imbue them with an understanding of a greater goal that must eventually be shared by our whole culture – that of creating a sustainable society. This necessitates going beyond the aesthetic to address questions of social and environmental responsibility which can then provide guidance for a new philosophy of design.

Complexity is an innate attribute of this new philosophy– it is inherently messy, ambiguous and in many ways the antithesis of architectural education. Developed through a long history, the teaching of architecture is still, in the most part, based on the Beaux Arts model. The design of the building is the central focus of the learning process and, while in some instances this has broadened to include other aspects, the project is generally the central locus of design education. The project is theoretical, the budget rarely considered, and the client is the professor whose central criteria are the formalistic success or failure of a particular design aesthetic. An architectural student from turn of the century Paris suddenly transported to many of our architecture schools would feel right at home. It is in this climate that we are attempting to introduce a whole new way of perceiving the world.

In my view, the current form of architectural education must be completely restructured. This is a 'radical' suggestion, from the Latin for 'root', as we are attempting to understand the cause of our problems. We are a society that busily band-aids symptoms rather than sorting out root causes. An obvious example of this tendency is our transportation system. A road becomes congested (symptom) so we add more lanes (solution) then more cars are attracted and we return to congestion (the symptom gets worse). The root causes are the wrong urban patterns coupled with the wrong transport system, yet any attempt to change the causes is viewed as a radical position. One tenet of sustainable design is to solve the real problem and not just the symptoms. Only by solving these root problems will we be able to permanently resolve the symptoms.

In the same vein, I do not believe that the piecemeal addition of classes in sustainable design, energy efficiency, solar design, etc., can address the root problem of how to help move our profession and society towards a more sustainable future. Certainly we will see a greater number of better performing buildings (and no one can argue with efficiency), yet I believe that a new approach to the complexity of human and natural habitats is required if we are to save ourselves.

In the move towards a more sustainable architecture I believe we must also examine what sustains us as individuals and as cultures. We must remember to sustain ourselves spiritually-- the ultimate goal of the aesthetic. We must be careful to avoid moving so fully into considerations of efficiency and practicality that we forget to examine inner needs as well as physical needs. An examination of human psychology and its relationship to nature must be an element we include in our programs.

Bringing sustainable design into the architectural school curriculum cannot be fully accomplished without a commitment to achieving an understanding of sustainability itself: what it is and how we as a profession can contribute to it. My understanding of sustainability moves beyond merely training professionals to design buildings. I believe we have to train a whole new animal, as it were, from the ground up and examine the role of the architectural school in the process.

I believe that for too long architecture has been operating without a moral compass, without a philosophy that gives central meaning to the activities of the profession. I believe that sustainable design has the potential to bring a whole new set of values and understandings to the role of the architect. Design is a powerful tool, more powerful than we are often aware, and like all power it can be used to positive or negative ends.

To help create a more sustainable society I believe architects must embrace a new invigorated sense of responsibility and work towards the creation of not only a more beautiful society but also a more equitable society. This may appear to some to be a utopian goal, and to some extent it is, as utopia never is fully achievable. Yet without a transcending goal for our profession and society I fear we humans may never achieve a sustainable relationship to the rest of creation.

To design a curriculum with this goal in mind is not an easy or simple task, and again we must look to Nature as a model. Complexity, circularity and diversity are three underlying essential features in natural dynamically stable systems. Therefore I believe our teaching must be based on these fundamental concepts. A teaching system that is partitioned, linear, fragmented and segregated cannot teach complex, whole-systems thinking in sustainable terms. Already the profession is reducing sustainability to a series of checklists that lead to a building being accepted as "green". I believe we must strive to move beyond the mechanics of "green design" to a broader vision of sustainable practice that includes not only the technical skills but also the moral and societal skills needed to create a sustainable world. The architect needs to be able to teach and inspire as well as design, and any curriculum must acknowledge that reality.

The Ecosa curriculum is an evolving work and still has certain omissions and deficiencies. Nevertheless, it creates a sound foundational approach to the question of what sustainable design education should look like. The following are some of the elements we have integrated into our semester:

Teaching as guidance

Our model of the teacher-student relationship is akin to explorer and guide. The students use and develop skills as they explore a holistic approach to the design question. Design is couched in solving not just architectural problems but also societal, cultural, environmental, economic and political problems. The teachers and lecturers are the guides, showing the way but not determining the destination. This can be a

very ambiguous and uncharted process, difficult to describe in terms of a linear curriculum. My experience has been that students thrive in this environment while many teachers have a difficult time letting the students drive the process. The reaction from our clients, however, has shown the effectiveness of this method:

"Your students tackled an insurmountable problem with a client (me) who gave them little to start with. They took to heart our broad admonition to 'let the land tell you what to do with it.' They succeeded beyond any of our wildest expectations."

"The students captured the 'spirit' of the site through thoroughly professional and meticulous research. Using the nearly unperceivable historical remnants of the railroad spur as the unifying element was pure genius."

"I have been involved in hundreds of development projects in my industrial career. This was one of the top creative groups of young people that I have worked with in a long, long time."

Reconnecting with nature

To be a sustainable designer one must have a deep sense of what it is that we are trying to sustain. We have two things to consider: nature and human society. In order to understand more fully what we are doing it is imperative that the architect has a powerful sense of nature and its systems, the biology and botany of a region and most importantly a love of nature. This we incorporate throughout the semester not only through meetings with biologists and ecologists but also through field trips that bring the student face to face with the reality of an ecosystem, its fragility along with their own vulnerability. It brings a sense of oneself as biology, subjected to the same rules and imperatives all living creatures must obey. It has been said that one will only save the thing one truly loves; without a love of the nature we are trying to protect, our attempts at sustainability will be self-serving at best.

Honoring all cultures

Built into our curriculum is a continuous cultural sub-theme, again not only with expert anthropologists but with field trips, to discover historic long-lasting cultures. Our students study cultural relationships to the built and natural environment, traditional cultures' interaction with and respect for nature and resources. We also critically examine some of the myths western society tells itself about those cultures.

Learning from Nature

We look to natural systems for clues as to how to create in easier, gentler ways. By studying natural survival strategies we can begin to both understand and emulate nature. For example the desert animal knows, unlike us, to get out of the sun and under the earth. Natural cooling systems the biology uses such as the natural cooling of a termite mound have volumes to tell us about how to design in harmony with natural systems. In emulating nature, we must use whole-systems thinking, again a more complex process than reductionist analysis. This means thinking not just about a building but its natural, social, economic, and cultural environment.

The process of learning

The Ecosa curriculum is designed as a series of iterations that deepen and broaden understanding as the student progresses. The intent is not just to assist the student in exploring a specific aspect of sustainability, but also to continually revisit the subject throughout the semester in an increasingly complex, recursive manner.

This exploration begins at a simple level; say the design of a simple packaging project, and moves forward throughout the semester to bring an increasing level of understanding to increasingly complex problems. As additional information is learned the students apply it in real situations. We use both the concept of complexity and systems thinking as central elements in working toward design solutions. A greenhouse that not only produces food but provides heating for your home, a means of using gray water, and a location to compost kitchen scraps, as well as a pleasant place to enjoy, would be one small example.

Team approach

A new way of designing now being adopted in the design profession is through a team approach; whether for buildings, products, or towns, different disciplines must work together to find better solutions. Yet our educational process still segregates architecture from other disciplines such as energy engineering, urban design, landscape architecture, sociology, biology, ecology and interior design, each area of study falling under a different department. Architects touch on those subjects in a classroom situation and have to demonstrate a basic understanding of these systems disciplines in design projects. But rarely do architecture students, engineering students, planning students, landscape students, or interior design students learn together. How then can we expect the new team approach and understanding to develop if we don't teach the process in schools?

Our programs incorporate a variety of levels of team activity ranging from the whole group to small task force teams. Though many of our students are experienced in the field of architecture, this is a new opportunity for them to become skilled in teamwork, team building, and developing leadership skills, especially as we include students from other disciplines facing the same challenge.

Use of real projects

We believe that the projects our students undertake need to be grounded in reality-- the reality of clients, budgets, deadlines, and presentation skills. Students in our semester program work on actual projects that are usually in the conceptual stage. Our past projects range from a Spanish Mission-inspired home for a local family to a remodeling of a Waldorf school. Recently we worked on a mixed-income development for a non-profit community development corporation. This project has since gone into contract documents through the Ecosa Design Studio, an architectural firm that allows our students to intern and monitor the project through construction.

Mentoring by leading practitioners

We also believe that students should be exposed to leading designers who practice sustainability and we have been fortunate to attract prominent figures in the field. This close interaction with our students becomes not only a learning experience but also an inspirational one.

As the Ecosa Institute develops, we realize we are committing ourselves to a huge task. It is encouraging, inspiring and humbling to work alongside a group that has the vision and the daring to work toward co-creating a future in the belief that we can learn and grow into a world that sustains nature, culture, and the human spirit.

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