



Linking Architecture and Education:

Sustainable Design of Learning Environments

By Anne Taylor

Architects must integrate their design knowledge with an understanding of interdisciplinary learning and the developmental needs and learning styles of students, while at the same time educators, parents and students must broaden their awareness of the built, natural and cultural environment and its potential as a learning tool.

The Silent Curriculum of the Physical Environment Affects Learning – A New Philosophy

For the past forty years Anne Taylor has studied how schools, classrooms (K-20), playgrounds, homes, museums and parks affect students and how they learn. As a professor working in the University of New Mexico's School of Architecture and Planning, she has had the unique opportunity to act as a pioneer, merging the two disciplines of education and architecture in her daily thinking and experiences in the field.

In her new book, Taylor argues persuasively for a role reversal expanding the repertoire of both architects and educators. Architects must integrate their design knowledge with an understanding of interdisciplinary learning and the developmental needs (rights) and learning styles of students, while at the same time educators, parents and students must broaden their awareness of the built, natural and cultural environment and its potential as a learning

and teaching tool. By learning to “read” the environment, humans cultivate what Taylor calls the “knowing eye,” a visual literacy that opens eyes and minds to the ideas and principles that are embedded in and govern the physical world, and that constitute the order in the universe.

Taylor takes a multifaceted approach to this complicated topic. Ten chapters offer a new model and philosophy of education tied to a unique awareness of the physical learning environment and the underlying order discerned and understood by the knowing eye. Accompanying this core narrative is a visual stream of information from illustrated architectural case studies, photographs, drawings, and planning charts known as “Tools for Thought” – all designed to stimulate thinking about learning environments and to encourage an open, diversified approach to the problems school planners and designers face today. A “Designer Perspective” section written by outside contributors

appears at the end of each chapter. In addition, each of the four major parts of the book concludes with an open “Stewardship Forum” of case studies and commentary derived from many different contributors on selected topics vital to school planning.

Building on five key points, Taylor creates a philosophical framework to motivate deep thinking about our schools—a main purpose of the book—and to link architecture and education through innovative design solutions.

Point One: Begin with Aesthetics and a Philosophical Frame of Reference

- The order in the universe is holistic, or in educational terms, interdisciplinary. Humans are a part of, not apart from their environment and as such must operate within the context and cycles of ecological sustainability.
- Research shows that the quality of the physical environment affects the quality of the learning.



- Architects are educators of the environment, aesthetics, and creativity. They can design and build subject matter concepts into the school building and surrounding eco=landscape. Educators are designers of the mind. using the environment as a teaching tool. Taylor suggests a role reversal here. With the proper professional development, we all have the potential to be both educators and designers.



Point Two: Develop and Use a Curricular Organizing System to Govern the School Facility Planning and Development Process

- Best educational practices and contemporary learning theory take priority as design criteria for planning and programming of educational facilities.
- Context, Content, and Learning Processes form a system of thought for the parallel development of educational curriculum and architectural programming for design.

- Students have developmental rights across body, mind, and spirit that must be translated into corresponding levels of architectural habitability for schools across (1) health and safety (codes), (2) functional support, and (3) psychological comfort and aesthetic satisfaction.

Point Three: Design and Learn from the Environment as a Three-Dimensional Textbook

- The objects we encounter in the built, natural, and cultural environment represent concepts (ideas) across subject matter disciplines.
- Architects can design and build these ideas into the school environment as “manifestations” for learning. A manifestation is the material object that represents the ideas, laws, and principles that govern our universe.
- Developing the “knowing eye” means knowing how to “read” or interpret the environment for meaning at increasing levels of understanding throughout a lifetime of learning, aiming for wisdom and stewardship of our world and each other.

Point Four: Aim for the Future

- The architectural design studio provides a model that can be used in school settings to deconstruct the outdated, repetitive, passive classroom while supporting applied, project-based learning, with themes for learning based on student interests, returning to students the power of their own learning. The teacher becomes a coach or facilitator for today’s learner, placing responsibility for learning on students.
- Learning environments of the future are based on the concept of the Technology Design Center, stressing flexibility, deployability of furniture, cus-



tomodial order and storage, support systems for a variety of ages and group sizes, communications technology, and more diversity of activity settings for real-life, hands-on learning.

- New instructional methods call for a corresponding change in teacher professional development. The concept of “teacher” can be expanded to include professionals from all walks of life—engineers, doctors, lawyers, architects, artists, and more can contribute directly to the learning experiences of our children. States and Colleges of Education must open their doors and modify licensure requirements to allow new expertise in the schools.
- School grounds must be included as part of the whole school program, to be designed commensurate with the building as “Learning Landscapes,” which are outdoor spaces for kines-





SCHOOL CANOPIES

DROP OFF AND ENTRY CANOPIES

CPI Pentaglas translucent canopies provide diffused soft quality daylight without glare. These maintenance free structures allow glare-free natural daylight to illuminate the covered area.

800-759-6985

www.cpidaylighting.com



Ferndale Middle School



Liberty Park Middle School



Coconino College



Speed School

Tested as new after 10 years harsh FL weathering

thetic, academic, and ecological learning. The acres of real estate surrounding schools could be productive gardens to provide fresh cafeteria food for our students and feed the hungry.

Point Five: Foster Ecological Stewardship by Nurturing the Individual, the Community, and the World

- Learning environments support the client/learner of today as a powerful, autonomous, active problem-solver at the center of learning.



- Schools do not operate in isolation, but are an important tool in maintaining democratic ideals of participation, equality, and multiculturalism. Schools can serve as community centers, and communities can serve as real life learning environments.
- Ecologically responsive design of schools (“green” architecture or “biotecture”) is essential to the development of a sense of place and stewardship for future generations. All buildings and landscapes should serve as working examples of sustainable design, contributing to a new ecology-based philosophical framework for our lives as global citizens.

The book concludes with an uplifting design solution from Antonio Aranda, one of Taylor’s postgraduate students at UNM. Aranda envisions a proposed bilingual, bicultural, and binational K-12



