INSPIRED BY DESIGN
Elevating experiential quality of architecture for all users

LearningSCAPES Conference
October 26-29, 2017
Atlanta, GA
MEET THE TEAM

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BORIS SRDAR
FAIA, LEED AP
DESIGN PRINCIPAL
THE HUMAN LEARNING EXPERIENCE

Critical thinking
Challenge:
Self - Evaluation of our best practices
CAE History

- Founded in 1948 as the “Committee on School Buildings”
- Became the CAE in 1970
- Semi-annual conferences for more than three decades
  • The best of educational design
- Focus on the last ten years:
  • Respond to pedagogical needs
  • Transition from implementers to leaders
  • Lead pedagogical change
  • Places to learn are now learning places
  • Learner at the Center of Design
“What is the message we send to students about their value to society when they attend school in an elegantly designed building?”

• Paraphrased from a presentation by Jonathan Kozol at a CEFPI conference in 2010.

How could Architecture enable teachers and students to be successful?

What is your dominant mode of learning? Where did you go to school as a child? What was it like? What is your child’s school like?

Should Schools promote collaboration and interactivity?

How could Architecture enable ‘whole brain development’

How could Architecture promote health and well being
LearningScapes-2016: 39 Most Creative Schools – keynote selection

LearningScapes -2015:
PBL mentioned 40 times in a single presentation
ARE WE MISSING SOMETHING CRITICAL?

EXPERIENTIAL QUALITY OF ARCHITECTURE

BEST PRACTICES
Adopting existing best practices improves current educational models.

= DOING WHAT WE ALREADY DO EVEN BETTER

NEXT PRACTICES
Do we need to be going beyond the limits of our current models to continually improve the learning experience?

= INVENTING A NEW FUTURE

“Welcome To Your World: How The Built Environment Shapes Our Lives”

By Sarah Williams Goldhagen
Cognition
Creating Multi-sensory Experience
How much does quality of space matter?
CURRENT CONDITIONS
“At school you may have been prodded to come **out of your shell**...”

SUSAN CAIN
Author of
*Quiet: The Power of Introverts in a World That Can’t Stop Talking*
SIGNIFICANT TRENDS

• Students need more quiet time to reflect

• Need to reduce the pressure to be outgoing in order to succeed

• Need to better balance out high-stimulation rooms
FINDING INSPIRING SETTINGS

- Softer lighting
- Daylighting
- Quiet room
- Technology-free zones
- Space for uninterrupted autonomous work
- Earplugs to create a sense of interiority
- Sense of containment and defensible space
BIOPHILIC DESIGN

biophilic design: an innovative approach that emphasizes the necessity of maintaining, enhancing, and restoring the beneficial experience of nature in the built environment
“Play in nature, particularly during the critical period of middle childhood, appears to be an especially important time for developing the capacities of creativity, problem solving, and emotional and intellectual development.”

- Dr. Stephen R. Kellert
EMERGING RESEARCH

MOTOR PERFORMANCE

ADHD

DISCIPLINARY RATES

NEGATIVE EMOTIONS

SOCIAL HIERARCHIES
EMERGING RESEARCH

- MOTOR PERFORMANCE
- ADHD
- DISCIPLINARY RATES
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Exploration & discovery  Façade greening  Spatial harmony  Security & protection  Avoiding placelessness
Habitats & ecosystems  Dynamic balance & tension  Tree & columnar supports  Natural materials
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Façade greening  Geology & landscape

CURIOSITY & ENTICEMENT

Plant motifs  Tree & columnar supports  Geomorphology  Wood

Arches, vaults, domes  Tree & columnar supports  Geomorphology  Wood

Light as shape & form  Sensory variability  Information & cognition  Color  Landscape ecology  Fractals

Age, change, & the patina of time  Central focal point  Integration of parts to wholes  Air  Order & complexity

Light as shape & form  Sensory variability  Information & cognition  Color  Landscape ecology  Fractals

Patterned wholes  Transitional spaces  Linked series & chains  Reverence & spirituality  Warm light  Fire

Complementary contrasts  Cultural connection to place  Egg, oval, & tubular forms  Animals  Light pools

Hierarchically organized ratios & scales  Botanical motifs  Spaciousness  Fear & awe

Natural light  Inside-outside spaces  Change & metamorphosis  Historic connection to place  Filtered & diffused light

ECOLOGICAL CONNECTION TO PLACE

Landscape features that define building form  Light & shadow  Attraction & beauty  Integration of culture & ecology

Water  Indigenous materials  Landscape orientation  Growth & efflorescence

Prospect & Refuge

Order & complexity  CURIOSITY & ENTICEMENT

Cultural connection to place  Indigenous materials  Landscape orientation  Growth & efflorescence

Light & shadow  Attraction & beauty  Integration of culture & ecology

Light as shape & form  Sensory variability  Information & cognition  Color  Landscape ecology  Fractals
Environment is experienced as providing security & protection

Students are able to recognize objects, habitats and horizons

Taps into evolutionarily instrumental needs

Most satisfying designs capture the complimentary relation of prospect & refuge.
CURIOSITY & ENTICEMENT

- Reflects our need for exploration, discovery, mystery and creativity
- Enticement fosters creativity
- Curiosity & enticement engages human intellect and imagination
English for Fun Flagship / Madrid / Rio + Carnicero
People are sustained by a positive connection to ecology, particularly watersheds, mountains, deserts, rivers & oceans.

Aspire to “net ecological productivity.”
Cherry Crest
Elementary School
US /NAC Architecture
• Preference for exterior views

• Scale of view should be compatible with human experience – not overly restricted, unfamiliar, or out of proportion.
• Evolutionary need for feeling of security from surrounding

• Subtle delineations may create sufficient sense of clear spatial definition
Farming Kindergarten / Vietnam / Vo Trong Nghia Architects
DESIRE CONDITIONS / CASE STUDIES
UNDERSTANDING LEARNING
Maslow’s Hierarchy of Needs

Communication  Creativity  Collaboration  Critical Thinking

FOUR Cs TERRITORY

SELF-ACTUALIZATION
- personal growth, authentic learning

ESTEEM NEEDS
- demonstrate knowledge, display work, be valued by your surroundings

SOCIAL NEEDS
- a place to call home, group membership

SAFETY NEEDS
- personal safety, no isolation, passive supervision

PHYSIOLOGICAL NEEDS
- air, temperature, light, access to water, restrooms

Maslow’s Hierarchy of Needs

- biological needs
- physical & psychological safety
- belonging, be part of a group
- achievement & recognition
- personal growth & creative fulfillment

Hierarchy of Learner’s Needs
ARCHITECTURAL NEEDS IN SCHOOLS

How does it feel to be there?
Spaces for Deeper Thinking, Contemplation, Reflection, Relaxation
Quiet – emotional and physical recharge

Classrooms/Labs/Gym/Music/Art/PBL spaces (shared)

Roof/Envelope/Comfortable interior

Experiential Quality

Innovative Activities

Program Functions

Basic Functions

Shelter

Flexibility – spaces fostering interdisciplinary Learning (not strictly programed)

Restrooms/Storage/Receiving
ORESTAD HIGH SCHOOL
Copenhagen, Denmark
3xN architects

Supporting Pedagogy
Communication, interaction and synergy were key issues for the design of this public high school.

Supporting the pedagogy
OPENNESS + FLEXIBILITY

All images by Adam Mork
GYMNASIUM
46°09'N-
16°50E
Koprivnica, Croatia
STUDIO UP

Sense of Mystery
PRIMARY SCHOOL FOR SCIENCES & BIODIVERSITY
Boulogne-Billancourt, France
Chartier Dalix Architectes

Nature Integration In a Dense Urban Setting

CREATING ITS OWN ECOSYSTEM
CHRYSLIS
CHILD CARE CENTRE
Auckland, New Zealand
Collingridge and Smith Architects

Equal **Weight** of Indoors and Outdoors: School Site Design
Outdoor education is the ultimate teachable moment.
GUILDFORD GRAMMAR PREPARATORY SCHOOL

City Beach WA 6015, Australia

Christou Design Group

Informal Spaces
- Microsoft
- Shanghai BEED
HAZELWOOD SCHOOL
Glasgow, Scotland
Alan Dunlop
Architect

“You can remember the place only if you engage all five senses”
Helping Pedagogy & Curriculum
“You can remember the place only when you engage all 5 senses.”

– AIA 2017 Orlando conference
Helping Pedagogy & Curriculum
If I had asked people what they wanted, they would have said faster horses.

- HENRY FORD
What are we trying to do as architects?

- Keeping the water out
- Writing Spec
- Minimizing Risk for Owners
- Providing safety

Supporting Pedagogy
What are we trying to do as architects and planners?

Creating Places we want to be at
Creating Spaces we want to be in
WHAT IS PREVENTING US?

“Be the change you want to see in the world.”

- MAHATMA GANDHI