Common Ground: Designing Inclusive Outdoor Environments

- Rebecca Colbert, Landscape Architect, MIG | Portico
- Robin Moore, Professor of Landscape Architecture at NC State and Director of the Natural Learning Initiative
- Stephanie Ashton, Education and Edible Schoolyard Director, Greensboro Children’s Museum in Greensboro, NC
- Patty Belmonte, Executive Director of the Hands On Children’s Museum in Olympia, WA
- Jenni Martin, Director of Strategic Initiatives, Children's Discovery Museum of San Jose
Session Outline:
❖ Inclusive Outdoor Play and Learning Environments – Robin Moore
❖ Break out Discussions
❖ The Edible Schoolyard - Stephanie Ashton
❖ Outdoor Discovery Center – Patty Belmonte
❖ Bill's Backyard – Jenni Martin
❖ Questions/Discussion

Learning Outcomes:
1. Identify developmental benefits associated with natural learning.
2. Demonstrate an understanding of inclusive design principles.
3. Discuss challenges associated with implementing and managing natural play and learning environments in children’s museums.
REALITY CHECK: Childhood Disabilities/Special Needs

Out of 1,000 children between the ages of 3 and 21, approximately 85 will have these disabilities...

Sources:

Keith Christensen
Utah State University

2010 PlayCore/
Utah State University
What is inclusive design?

**Universal design:** “Design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.”

**Inclusive design** – considered synonymous with universal design in the UK and elsewhere – unfortunately!

**Inclusive design** – lacks alternative authoritative definition – must embrace social and cultural equity – and human dependence on nature (the biosphere)?

Ron Mace, FAIA
1941-1998
Almost three-quarters use occurred in five (1/3) settings: composite play structures, pathways, social gathering settings, sand play, and swings.

— Moore & Cosco, 2007
Who benefitted the most from universal design? **Stroller users – 10 times the number of wheelchairs!**
Social and cultural inclusion: integrating manufactured, natural, and human systems.
Wheelchair surprises!
Wheelchair surprises!
Wheelchair surprises!
Common Ground: Designing Inclusive Outdoor Environments

Wheelchair surprises!
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Wheelchair surprises!
Wheelchair surprises!
Only 35% of Children’s Museums include an outdoor exhibit or garden.

The future health of planet Earth and its peoples rests on the shoulders of adults and institutions committed to guiding childhood along a new path of enlightenment. Informed, institutional action is required to ensure our future.
Benefits of nature play

- Intrinsically motivating
- Socially inclusive
- Responds to variable skill levels
- Enhances self-esteem
- Provides sensory stimulation
- Improves attention functioning
- Reduces sickness rates
- Stimulates physical development

Benefits of nature play for sustainable development:

- Offers tacit knowledge about the natural world
- Provides opportunities for interdisciplinary study
- Connects children to their local ecosystems
- Encourages solidarity with Planet Earth
Biophilic science is growing fast!
### Developmental benefits of natural play & learning

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<th>Physical health</th>
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<td>General health</td>
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<th>Motor</th>
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<td>Motor function (e.g. coordination, strength and skills)</td>
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<th>Mental health</th>
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<td>Restoration</td>
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<th>Cognitive</th>
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<th>Social/emootional</th>
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<td>Pro-social behavior (e.g. cooperation, helping behaviors)</td>
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<th>Academic</th>
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<td>Engagement in school and learning</td>
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<th>Occupational</th>
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<td>Occupational function (e.g. performance on the job)</td>
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<th>Conservation values, knowledge, and behaviors</th>
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<td>Connection to nature or a natural place</td>
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<th>Neighborhood/town/city</th>
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<td>Neighborhood violence</td>
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<th>Utilization of nature</th>
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<td>Access to nature (e.g. studies assessing who has access to what kind of green space)</td>
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<th>Play behaviors &amp; styles</th>
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Disabilities, urban natures and children's outdoor play

Physical barriers to accessibility may not be the principal way in which play/nature spaces are encountered by people with disabilities. Horton, J., (2017). Disabilities, urban natures and children’s outdoor play. Social & Cultural Geography, 18(8), 1152-1174.

Planning walkable neighborhoods: Are we overlooking diversity in abilities and ages?

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Playwork and cultural animation in inclusive natural settings

Multiuse Family Picnic Setting

- Small rolling mound creates variation in topography
- Picnic table detail for accessibility
- BBQ detail for accessibility
- Outdoor kitchen with water and food preparation counter
- Seating located to give overview of the pond
- Raised lawn area with wall for accessibility
- Diversity of water edge treatment
- Opportunity for manipulating the environment

Playing and Learning in Adaptable Environments
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Playwork and cultural animation in inclusive natural settings
PLAY > > > > LEARNING > > > > EDUCATION

TACIT KNOWLEDGE

FORMAL
- Independent schools
- Public schools

NONFORMAL
- Museums
- Zoos
- Botanical Gardens
- Aquariums
- Arboretums
- Nature Centers

FACILITATED
- Play professionals

INFORMAL
- Free Play
  - Friends
  - Peers

FAMILY
- Relations

VALUES
- Moral and ethical development
Nature as therapy
Nature as therapy

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Substance Abuse and Mental Health Services Administration
“The place where cultural experience is located is in the potential space between the individual and the environment. Cultural experience begins with creative living first manifested as play.”
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A new role for children’s museum as therapeutic healing places: affording refuge, peace, and restoration for all children
Continuing role as training grounds for citizen scientists
**Children’s museums as training grounds for citizen scientists**

**Scientific skills afforded through engagement with nature**

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<td>Discriminating</td>
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<td>- Change over time</td>
<td>- Ranking</td>
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<td>- Color</td>
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<td>- Sorting</td>
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<td>- Smell</td>
<td>- Subtracting</td>
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<td>- Taste</td>
<td>- Transforming</td>
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UNDERSTAND Planet Earth
Common Ground: Designing Inclusive Outdoor Environments

Early science learning at the Bay Area Discovery Museum (BADM)
BADM: Communication behavior by setting
Common Ground: Designing Inclusive Outdoor Environments

BADM: Setting attributes and level of use

Interaction with the environment

- Loose natural
- Loose manufactured
- Fixed natural
- Fixed manufactured
- No trail
No science readiness behavior — the child is not engaged in any activity or any type of play.

Playing — the child is engaged in an activity that cannot be considered as any of the other science readiness behaviors.

Observing — the child is observing, examining closely but not engaged in action or in-depth inquiry.

Exploring — the child is making an explicit inquiry into something.

Experimenting — the child is making an intentional inquiry where there is a plan being carried out.

Cause-effect — the child is making a deliberate action to produce a certain response to the action.
BADM: Early science learning
Learning to be a Planetary Lifeguard
LOVE, RESPECT & UNDERSTANDING
The Edible Schoolyard at the Greensboro Children’s Museum

Quick Facts

- Opened in 2010
- ½ acre garden and cooking school designed by Robin Moore, NC State
- Demonstration garden focusing on sustainable agriculture
- 1 of 7 founding programs of The Edible Schoolyard Project - Alice Waters
- 2 full-time educators, 1 part-time gardener, and shared Museum support staff.
Providing Financial Access

• 3,740 kids served annually through our Edible Schoolyard Field Trip Programs – 70% are fully funded through grants and donations
• Summer Camp
• Classes
• Grant Funded Programs
Broaden Your Community
GCM at the park
Inclusive Language
Intake Forms for Classes and Camps

Original Versions
1. Does this child have any food allergies?
2. Does this child have any special needs?
3. Please read our discipline policies and procedures.
4. Parent/Guardian

Updated Versions
1. Does this child have any dietary restrictions?
2. Is there anything else you would like us to know about this child to ensure that s/he has the best possible experience?
3. Do you have successful behavior strategies you use at home or school that we could try here as well?
4. Caregiver
Hands On Children’s Museum

Patty Belmonte, Executive Director
Olympia, WA
Downtown Waterfront

- Opened late 2012
- 3 previous expansions in 25 years
- 1+ hours to Seattle; 2.5 hours to Portland, 45 min to Tacoma
- City size 51,000; MSA 275,000
- Budget $3.9M
- 315,000 Annual Visitors
- 119,000 Free/Reduced Admissions
Located on the Tip of Puget Sound
3 Projects – Inspired by water & the natural environment
Children’s Museum & East Bay Plaza
250’ Interactive Stream
fed with Class A reclaimed water
A New Museum Model
Seamless Indoor Outdoor Play

Key Initiatives

✓ Facility Reflects Region
✓ Healthy Lifestyles
✓ Nature Play
✓ Model Green Building
✓ Community Access
✓ Nature Makers
✓ Unique Partnerships
Starting with a ½ acre flat, urban lot
Three Roll-Up Doors Along the Front of the Building Encourage Indoor Outdoor Experiences
Going Wild! National Pilot Site
Recreating A Puget Sound Beach
Driftwood Fort Construction Exhibit
Adding the Mud Kitchen
Raccoon Run; Patrick Dougherty Sculpture At the Edge of the Beach
Hike & Trike Loop, Children’s Garden, Lighthouse Lookout, Gravel Dig, Covered Terrace
Nature Play
Young Naturalists
Taking “Making” Outdoors
Nature Makers Snow Days
Nature Makers Tinkering Stations
Painting on the Terrace
Nature Partnerships to Broaden Inclusion

USFS, DNR, USDA, State Parks, USGS, Tribes, Stream Team, Mountaineers, Beekeepers Association, Shellfish growers, Land Trust & Rescue Organizations
Children’s Discovery Museum of San Jose
Jenni Martin, Director of Strategic Initiatives

- 409,000+ visitors per year
- Annual budget $9.4 million
- Open Door Policy serves 60,000 annually
San Jose – Majority Minority City

San Jose, CA
Self-Identified Race/Ethnicity*

Asian 33%
Hispanic 33%
Other 3%
White 28%
African-American 3%

*United States Census Bureau, 2010
Today’s children become tomorrow’s visionaries, innovators, problem solvers, critical thinkers, and creative forces.

Today’s fort builder is tomorrow’s green builder.

Today’s nature explorer is tomorrow’s John Muir.

Today’s plant waterer is tomorrow’s drought management expert.

Today’s tree climber is tomorrow’s risk taker.

Today’s rock sculptor is tomorrow’s artist-in-residence.

Today’s tomato harvester is tomorrow’s innovative farmer.

Today’s insect lover is tomorrow’s environmental steward.

Today’s stepping stone hopper is tomorrow’s bridge builder.

Today’s composter is tomorrow’s environmental engineer.
Bill’s Backyard: Bridge to Nature: innovative outdoor play space for children to play in an unstructured environment, enjoy being outside, discover new things, use their full bodies, take ‘safe’ risks, and gain confidence.
Nature Play Philosophy

- Get dirty
- Take risks
- Stack stones
- Use your imagination
- Solve problems
- Play well with others

Playing outside inspires creativity and curiosity!
Nature Park Features

Trail Markers

Dry Creek

Kiosk

Ranger Station
Trilingual Signage

Rain Harvest System

In many regions with dry climates such as California, rainwater collection is an essential part of using water wisely and planning for the future. Let's work together to make every drop count!

For more information about rescuing water that might have been lost as runoff, visit: www.cdmh.org/bio/rainharvest

Every Drop Counts!

Collect rainwater
Collect lluvia
Tích tụ nước mưa
Irrigate plants
Bajo la lluvia
Tưới cây
Replenish groundwater
Rehuma las aguas subterráneas
Hệ thống trữ nước ngầm

Sistema de cosecha de lluvia
En muchas regiones de California con climas secos, la colección de lluvia es una parte esencial del uso responsable del agua. Trabajemos juntos para aprovechar cada gota. Para más información sobre cómo capturar agua para que puesta perdense en la escorrentía favor de visitar: www.cdmh.org/bio/rainharvest

Hãy Thống Chữ Nuộc Mưa
Ở những vùng ô nhiễm như hoa lươn California, việc chấm dứt mưa là một phần quan trọng của việc cung cấp nước một cách khoẻ mạnh và liên kết hướng cho tương lai. Hãy làm việc cùng nhau để hóa giải mối quan quan; Đọc biết thêm thông tin về việc cứu nguyên nước có thể tại di, hãy tham gia các dự án:
www.cdmh.org/bio/rainharvest

Hãy Trần Quy Mồi Giọt Nước!

Animals | Animales | Động Vật
Trilingual Signage

Playing outside inspires creativity and curiosity!
Please help us create a positive habitat for children and nature.

¡Jugar afuera inspira la creatividad y la curiosidad!
Por favor ayúdanos a crear un hábitat positivo para los niños y la naturaleza.

Chơi ngoài trời sẽ gây cảm hứng cho sự sáng tạo và hiệu quả!
Xin hãy giúp chúng tôi tạo ra một môi trường sống tích cực cho trẻ em và thiên nhiên.
Next Steps – Happy Trails Program

• Solve Operational Challenges
  Yellow Jackets: Eating can invite unwanted guests
  Shade and misters: It’s hot in San Jose!

• Help guests get out to more natural areas
  Local Creek
  More remote areas
    Transportation
    Comfort level

• Continue to inspire children and their parents to love nature and want to protect the earth!
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