Children and Nature: Creating Outdoor Spaces for Education and Play

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Children’s Connection with Nature

- It is suggested that the natural world establishes one of the most important contexts children encounter during their critical years of development and maturation.
- **Biophilia** refers to the innate emotional attraction that humans have to nature and other living organisms.
- When children are allowed to interact with nature, even the youngest children can make connections between humans and animals, how natural systems work, and gain a better understand of the world at large.
Louve’s “Nature Deficit Disorder”

- Unfortunately, more and more children are losing touch with the natural world and the way they understand and interact with nature is radically changing.
- The disassociation with nature and its ill effects on children has been coined by Richard Louve’s nature-deficit disorder.
- Nature-deficit disorder describes the effects on people from a constant disconnect from nature ranging from diminished use of the senses, attention difficulties, to higher rates of emotional and physical illnesses.
The “Extinction” of Nature Experience

- Extensive habitat destruction
- Environmental contamination
- Urban sprawl
- Population growth
- Advances in technology
Reversing Nature Deficit Disorder

- Many educators, parents, and organizations have begun to closely monitor the recent findings and are set on reversing what they perceive as the adverse effects of nature-deficit disorder.
- Outdoor learning environments are springing up all over the country that will aid in childhood development and education, and many schools are implementing schoolyard classrooms.
- The time spent outdoors is helping children gain a positive environmental ethic, independence, and contributing to imagination and the sense of wonder.
Benefits of Frequent Outdoor Experiences

- Lesser symptoms of ADHD
- Higher test scores
- More advanced motor fitness
- Sick less often
- Improves cognitive development
- Deal better with life stressors
- Reduces or eliminates bullying
Nature Experiences and Child Development

- The way children learn is very different than how adults learn.
- To effectively educate children about the environment, their education must be designed to match their developmental needs, interests, abilities and learning styles.
- Children learn with their senses by doing hands-on activities and through interactive play and self-discovery.
Types of Nature Experiences

Direct experience
Types of Nature Experiences

Indirect experience
Types of Nature Experiences

Symbolic experience
Learning Styles

- **Visual learners** learn through seeing

- **Kinesthetic learners** learn primarily by doing

- **Auditory learners** learn by listening
Outdoor classrooms

- Children need to be able to have sensory-rich learning experiences found within “their own backyard”.
- Common design elements in outdoor classrooms include:
  - Natural Areas
  - Water and water harvesting
  - Storage areas
  - Seating
  - Signage
  - Plantings/Gardens
  - Shade structures
  - Pathways
  - Accessibility and Safety
  - Animals
Place-based learning is basically locally driven environmental education integrated with learning standards and expanded beyond the natural environment to include the cultural, social, and economic conditions of a place. It contributes to the broad adoption of stewardship perspectives, skills and actions, and the restoration, rebuilding, and reconnecting of human communities and natural systems.
Case Review: Arizona Sonoran Desert Museum
Case Study: Heard Nature Preserve and Museum
Research Question

What is the feasibility of my site for demonstrating a variety of learning strategies through a children’s learning center in a natural resource area for elementary students?
Locating Palo Duro Canyon

Texas State Map By County

Legend
- State Parks
- Texas Counties

Source: Texas State Data Center
http://txsdc.utsa.edu/Data/Tiger2012/Index.asp
Created July 29, 2012
Map Projection: UTM Zone 14,
Northern Hemisphere (NAD 1983)
Proposed Site

- Site sits on approximately six acres
- Site is currently used as an interpretive theater area
- Site is primarily flat, but outskirts marked by high ridge to the northwestern and northeastern sides
Contextual Elements of Site

- Visitors Center
- Activities Center
- Pioneer Amphitheater
- Old West Stables
- Numerous biking and hiking trails
- Campgrounds and cabins
- Historic CCC Dwellings
Brief History

- Palo Duro Canyon is the site of the largest state park in Texas. The park encompasses only a relatively small portion of the approximately 150 mile long canyon.

- Due to the availability of wood, water, game, edible plants, raw materials for weapons, and shelter from the harsh winter winds, Palo Duro was a favorite camp site for both prehistoric peoples and later Native American tribes.

- In 1876 Charles Goodnight began the first commercial ranch in the Panhandle and the canyon remained the domain of the cattlemen for the next half-century.
Geology, Vegetation and Animals common to the Canyon

- The canyon walls represent a time span of approximately 240 million years depicted in the canyon geologic layers.
- Below the canyon slopes lies the greatest diversity of vegetation. The topography and soils sort the vegetation into evident plant communities.
- Some of the mammals that occur here are the coyote, porcupine, jackrabbit, cottontail rabbit, raccoon
Paleontology

- Remains of the Metoposaurus, the last of a long line of giant amphibians, are found here. These animals buried themselves in large ponds and waited for fish to pass.
- Phytosaurs looked very much like a giant crocodiles with a nostril on the top of their heads, which permitted them to lie submerged just below the surface of the water.
- A heavily armored aetosaur, Desmatosuchus also lived in the park area during the Triassic.
Palo Duro Rock Strata
Conclusion: Possible outcomes from PDC Outdoor Learning Center

- Two components of center:
  - Adult lead and child lead

- Interpretive trail system

- Protection and education of riparian area

- Collection of plant and animal species

- Exhibits reference history and geology of site
QUESTIONS?