Nurturing Early Learning
Resources to Support Young Children's Learning in the Outdoors
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Why outdoor play?

Research reveals the importance of nature contact and outdoor play in supporting children’s healthy physical, social and emotional, psychological, and cognitive development. However, sociopolitical and cultural factors are threatening children’s access to nature experiences. Incorporating meaningful nature interactions into early childhood care and education settings is a powerful way to enrich children’s learning and development.

A growing body of literature describes the many potent benefits of nature play. Outdoor play is associated with elevated activity levels that protect against physical health problems. Nature contact supports psychological health, improves attention and focus, mitigates stress, and reduces risk of depression and anxiety disorders. Spending time outdoors strengthens children’s immune systems and play involving natural features such as uneven terrain and balancing logs facilitates gross and fine motor development.

Despite the recognized importance of nature experiences, children’s access to outdoor play is drastically curtailed compared with previous generations. Children in the U.S. exhibit a similar trend as adults in adopting a highly sedentary lifestyle. At the same time and almost certainly relatedly, there has been a sharp increase in health problems among children, including obesity and associated diseases, vitamin D deficiency, and mental health disorders. This dwindling opportunity for nature contact, how can you embrace each child’s personality and interests, family and home backgrounds, and cultural communities? How can nature contact include both bringing children into nature and bringing nature into indoor classroom spaces?

“Why do we need to give [children] time outdoors, where they can meet and savor the world that humans have not made – pill bugs on a sidewalk, a swarm of tadpoles in a puddle, a tree for climbing, a sky aflame with sunset, a kiss of wind.”

Scott Russell Sanders

“A Conservationist’s Manifesto”

Reflection Questions

To what extent do children in your program spend time outdoors? How can you increase children’s opportunities for outdoor play and improve the quality of these play experiences?

While imagining possibilities for supporting nature contact, how can you embrace each child’s personality and interests, family and home backgrounds, and cultural communities? How can nature contact include both bringing children into nature and bringing nature into indoor classroom spaces?

References

The natural world affords diverse play opportunities that support children’s physical, cognitive, and social-emotional health and development.1 To prevent the serious health challenges associated with young children’s sedentary, overscheduled, and restricted lifestyles, educators should work to incorporate active and unstructured nature play into early childhood education programs.

Children’s play in outdoor settings is more vigorous, varied, and sustained than indoor play.2 The prevalence of childhood obesity has greatly increased, and research reveals the positive influence of nature contact on mood and psychological health, including reducing feelings of stress, anxiety, and depression.3,4 Frequent positive experiences in outdoor settings nurture children’s empathy for inhabitants of the natural world and emotional attachment to special places.5 Property play opportunities give rise to a love and respect for nature and environmentally responsible attitudes and behaviors.6

Nature “offers a multisensory smorgasbord of seeing, hearing, touching, and tasting, immersing children in a much grander world than can ever be captured indoors.”7 Scott Sampson

**How to Raise a Wild Child**

Nature play also greatly benefits children’s social-emotional development and psychological well-being. Through challenging and risky play experiences, children learn to assess and manage their interactions with their surroundings and cultivate resilience, independence, self-regulation, and self-efficacy.8,9 Outdoor playscapes support collaboration, peer negotiation, and conflict resolution because “the natural setting creates a calm, sensory-rich — but not sensory overloaded — environment” and a sense of expansive time that enable children to navigate social tensions.10 In addition, research reveals the positive influence of nature contact on mood and psychological health, including reducing feelings of stress, anxiety, and depression.3,4 Frequent positive experiences in outdoor settings nurture children’s empathy for inhabitants of the natural world and emotional attachment to special places.5 Property play opportunities give rise to a love and respect for nature and environmentally responsible attitudes and behaviors.6

**References**

Educator well-being

Educator well-being is an important consideration in educational contexts because it is closely related to educator retention, quality of teaching practices, and student experiences in the early learning setting. Educator burnout and attrition are serious concerns at both the school and system level, and increasing educator well-being is one key way to confront these challenges. Educators with high levels of psychological well-being, strong social and emotional support systems, and appropriate coping strategies may build higher-quality social and emotional support systems, and in-the-moment positive experiences, as well as eudaimonic well-being, which refers to deeper feelings of life meaning, autonomy, self-awareness, vitality, awe, spiritual transcendence, and prosociality.1-7

The natural world has a powerful influence on human health and psychological well-being.1 Human relationships with nature include multiple dimensions. Nature contact refers to discrete interactions with nature, which can be brief, intermittent, regular, or sustained. Nature connectedness describes the individual’s subjective understanding of their connection with nature. Research indicates that both nature contact and nature connectedness are associated with hedonic well-being, or in-the-moment positive experiences, as well as eudaimonic well-being, which refers to deeper feelings of life meaning, autonomy, self-awareness, vitality, awe, spiritual transcendence, and prosociality.1-7

“Theoretical perspectives suggest a range of possibilities: 1) contact with nature acts as a medium for restoration, 2) contact with nature provides an opportunity for emotional care, 3) nature provides a mirror for in-depth reflection or 4) contact with nature provides an opportunity to rekindle an innate union.”

Eric Brymer, Thomas Cuddihy, & Vinathe Sharma-Brymer

“The Role of Nature-Based Experiences in the Development and Maintenance of Wellness”

Several theoretical frameworks help to explain the importance of nature for human well-being. The biophilia hypothesis proposes that humans have an innate and evolutionarily grounded tendency to affiliate with life and living things.8-11 Attention restoration theory describes how the “soft fascination” of nature invites involuntary attention and restores individuals’ cognitive resources that are depleted through everyday use of directed attention.12 Stress reduction theory proposes that nature’s positive effects on psychological well-being occur through a mechanism of improved stress recovery. In addition to these broad influences on psychological well-being, nature contact and connectedness also have positive effects on teaching practices in particular. Educators respond more favorably to playspaces with higher levels of vegetation13 and green spaces increase educators’ motivation to teach.14 Teaching in outdoor environments can build educators’ confidence and enthusiasm and facilitate their development of innovative pedagogical practices.15 Thus, nature-enriched early childhood education has great potential to nurture educator well-being, improve their practice, and support child development.

References
Risky play and risk management

Children need risky play for numerous reasons and they frequently seek out or create opportunities to fulfill their need for risky play. Outdoor settings afford a range of challenging play scenarios and require an approach to risk management that balances the developmental benefits of free play in risky environments with the maintenance of a hazard-free playspace.

Risky play is essential to children’s learning and growth. Children develop risk management and decision-making skills by encountering risks in play settings and they build resilience, perseverance, confidence, and self-reliance through overcoming challenges. Risky play supports other indirect benefits such as children’s exploration of their physical abilities and limits, engagement in contextualized investigation of scientific concepts such as force and movement, and social skills like peer negotiation and mutual encouragement. However, examples from Scandinavian early childhood programs demonstrate an alternative understanding of risky play and its positive outcomes. There is also a growing number of forest kindergartens and nature preschools in the United States that embrace risky play in outdoor settings as an opportunity for learning and healthy development.

"The benefits of taking some risks will usually far outweigh the dangers, and through this children are given a sense of independence, freedom and choice. They learn to make decisions based on their own opinions without intervention from adults; they work with others, share ideas. Children grow in confidence, develop a sense of trust of each other and learn through their own mistakes. Children learn to use tools with safety and care; they grow stronger and braver, share their experiences with others and develop into sensible explorers."

Karen Constable
The Outdoor Classroom Ages 3-7

A more balanced approach to risk management requires clarifying the difference between risks and hazards. In risky play, outcomes are uncertain and there is a possibility of injury, and children choose whether and how to engage. Research indicates that children are capable of monitoring and regulating their own engagement with risk, including sometimes withdrawing from risky situations, in order to maintain optimal levels of arousal, fear, and exhilaration. In contrast, hazardous situations pose a high likelihood of harm and the dangers are invisible and can’t be recognized and evaluated by children.

Educators can do much to support risky play within their own program contexts without putting children in danger. They can scaffold children’s engagement in risk-benefit assessments, which supports children’s development of observation, decision-making, and planning skills. They can also nurture children’s sense of responsibility by discussing the boundaries of play and conveying to children the importance of their own role in upholding the rules.

Educators can approach the creation of playspaces and facilitation of play with an attitude of “as safe as necessary” rather than “as safe as possible.” Rather than trying to control children’s outdoor experiences educators can utilize a combination of risk management strategies, including keeping a close eye without interfering, choosing to sometimes be distant or not present, and contributing to or even initiating risky play, in addition to constraining play when it is genuinely necessary for children’s safety.

Reflection Questions
How does your program currently think about, talk about, and manage risk in children’s play?
How can you incorporate outdoor risky play into your program’s daily routines?

"It is a powerful catalyst for growth that helps them develop good judgment, persistence, courage, resiliency, and self-confidence."

David Sobel
Nature Preschools and Forest Kindergartens

References

Cultivate Learning
...under supportive conditions, even very young children are capable of building meaning around ‘big ideas’ in science, and exploration of the natural world provides the perfect setting for this to happen.”

Daniel R. Meier & Stephanie Sisk-Hilton
Nature Education with Young Children

Young children’s nature experiences are most conducive to STEM learning when they are grounded in concrete, embodied activity. For example, active exploration and sensorimotor stimulation support verbal development through the co-activation of the brain’s motor and linguistic areas, creating “physical associations that could make the concepts more visceral and intuitive. Motor engagement is particularly beneficial for acquiring language about actions, forces, and physical objects — language that is crucial for STEM learning. Educators’ incorporation of embodied illustrations of scientific ideas such as evaporation can also enable young children to develop conceptual understanding and “talk science” without mastering technical terminology.

More generally, authentic activity in outdoor settings gives rise to a local, personalized vocabulary that is a rich foundation for STEM learning.

STEM learning in early childhood should focus on close-to-home settings rather than distant places and abstract ideas. Teaching of environmental knowledge and stewardship in early childhood should be rooted in empathy with the natural world and its more-than-human inhabitants rather than an overemphasis on facts. Positive affective experiences in early childhood lead to wonder, curiosity, and a love of nature that can motivate ecological and STEM learning more broadly. Educators can scaffold and extend inquiry as it arises according to what is important to children in local settings — for example, by introducing ideas such as classification, part-to-whole relations, structures and functions, patterns, cycles, and systems. Teachers should offer questions rather than answers and build a culture of collaborative discovery that encourages children to describe and investigate their noticings. Nature journaling contributes to children’s observation, multimodal representation, and record-keeping abilities. These practices nurture STEM-related competencies through play and learning motivated by children’s own curiosity.

The natural world is a rich resource for early childhood learning, especially in building a strong foundation for science, technology, engineering, and mathematics (STEM) thinking. Through educator-scaffolded as well as self-directed exploratory play, outdoor environments can support alignment with early childhood STEM standards and cultivate children’s abilities and affinities in preparation for later learning.

When children engage in unstructured outdoor play, they often spontaneously enact scientific practices and construct deep, contextualized understandings of STEM concepts. These practices include comparing and classifying, measuring and enumerating, exploring and manipulating physical properties, collaborative investigating, and systematic inquiring and problem solving processes. Children develop intuitive understandings of movement, spatial relationships, and other physical principles. Free play in natural environments is powerful because it provides the time and space for children to become engrossed in meaningful, self-selected learning experiences. Repeated immersion in an outdoor context over time allows children to construct knowledge through iterative experimentation.

References
Gardening in early learning contexts supports play and learning in a variety of ways, including fulfilling children’s biopsychological affinity for interactions with living things and developmental need for a diversity of rich sensory stimuli. Participation in garden programs is associated with greater knowledge about nutrition and healthy eating habits. Gardening and farming also nurture children’s understanding of ecosystems and food systems and their development of environmental attitudes, values, and behaviors. In terms of curriculum content, gardening provides ample opportunity for experiential learning and exploration of math, science, and language concepts grounded in authentic activity. Caring for a garden cultivates children’s motivation, pride, and positive social relationships and fosters their holistic learning and growth.

Creating a garden or farm program involves a number of considerations. In order to encourage children’s sense of responsibility and stewardship, their agency should be foregrounded in all aspects of the planning, implementation, and maintenance processes. The goals of the space should be co-constructed with stakeholders and clearly articulated — for example, will the program emphasize ecologically valuable plantings or schoolyard beautification? Will the space be used primarily for structured learning or unstructured play? Regardless of these factors, the garden should include a variety of features (e.g., open areas and private spaces) and offer multiple modes of engagement (e.g., water play, sensory play, exploration) that accommodate a range of ages and interests. Since “touching, tasting, smelling, and pulling apart are also vital,” multimodal interaction may often entail balancing the interests of the children and the space.

Scott Sampson

References


Reflection Questions

What are the potential challenges and opportunities of a garden or farm program at your site?

What are the primary objectives for a garden or farm space in your community (including the perspectives of children, families, and program staff)?
The implementation of nature-based early learning can take many forms and draw inspiration from several different models that share a belief in the value of frequent experiences in nature for children’s learning and ecological consciousness. At nature preschools, children spend 25-50 percent of the day outdoors and the natural world is utilized to enact high quality practices and support developmental goals from the fields of early childhood education and environmental education. Children in forest kindergartens are outside for 70-100 percent of the day regardless of weather conditions and learn through an emergent, child-centered curriculum. Other programs incorporate nature by building community partnerships and bringing children regularly to a nearby natural space.

Nature-centered learning can be tailored to the particular opportunities and constraints of each early childhood program. Natural play spaces are optimal for teacher-guided pedagogy as well as the unstructured, child-initiated play that is crucial for young children’s health, well-being, and learning — balance between these priorities should be established by each program based on their own needs and objectives. Nature Preschools and Forest Kindergartens

“Tune your sensibilities to seeing the affordances and opportunities in the niches and interstices of urban parks, suburban backyards, plain old marshy woods, cemetery edges. Often we don’t need to spend lots of money to find suitable wonderful natural areas that allow children to spend a bit more time in Neverland.”

David Sobel
Nature Preschools and Forest Kindergartens

The physical context of outdoor play should be designed with intentionality and through collaboration with stakeholders, including families, children, and staff. A natural learning space does not need to be expansive to serve as an exciting playspace for children; in fact, “ratty little thickets,” unremarkable nooks, and enclosed hiding spots are often more special. If lack of space is a constraint, teachers can offer many of the benefits of nature play by introducing open-ended loose parts into the play area and coordinating trips to neighboring natural spaces. When imagining outdoor play spaces, educators should consider the overall character, the micro- and macro-context, the connectivity and clarity of spaces, the changes over time, and the availability of opportunities for children to challenge themselves and manipulate the environment. Similarly, an analysis of existing outdoor classroom environments distilled a number of important design features: abundant choice, child-sized spaces, pathways and borders as playspaces, flexible spaces that can change over time, and community engagement and stewardship. These design frameworks for children’s playscapes offer adaptable principles to support the implementation of outdoor play in local contexts.

References

Reflection Questions
What opportunities for nature-centered play and learning are available in your program setting? What are some short-term and long-term initiatives you can enact to increase nature play?
How can you build connections with community stakeholders and partner organizations in order to support children’s nature play?