

Inspired by Nature

SANDRA
DUNCAN, EdD,
and
CHRISTINE
BURKHOLDER

DESIGNING PLAY
PLACES FOR THE
LITTLER LEARNERS



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The background of the page is a light blue grid pattern. On the right side, there is a vertical strip with a white background and a pattern of various green tropical leaves, including large monstera leaves with holes and palm fronds. The text is contained within a white rounded rectangle on the left side of the page.

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Christine Burkholder
Published by Gryphon House, Inc.
P. O. Box 10, Lewisville, NC 27023

800.638.0928; 877.638.7576 (fax)

www.gryphonhouse.com

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Library of Congress Control Number:
2023935212

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DEDICATION

Our grandchildren give us our inspiration.

Nature teaches us many lessons, and one of them is wonder. May you always seek and find the joy and wonder found in nature.





FOREWORD

What you know intuitively—how you feel calmer outside, how tears spring to your eyes when you witness a spectacular sunset, how you are irresistibly drawn to sit by the ocean, explore a forest trail, or climb a mountain—is real and is backed by copious amounts of research. Human beings are literally hardwired to respond to the cues of nature. Our nervous systems, our circadian systems, our heart rate and breathing, our gut, our skin. We are of nature, not separate from it. As such, we function best within indoor and outdoor habitats that are designed as closely as possible to how nature designs.

Everything we need to thrive as humans is provided by nature. Our ancestors knew this. And they knew that all we have to do to avail ourselves of this bounty is to humble ourselves. Take only what you need. Demonstrate your gratitude, and give back.

—Prakash Nair, architect



ACKNOWLEDGMENTS

Special thanks to our Gryphon House editors and designers, who gave us the freedom to write and publish this book the way we envisioned, and to Lauren Magee who contributed some initial personal perspectives and ideas from an architectural point of view.

Thank you to the following individuals and special friends who graciously contributed their personal ideas, thoughts, and reflections on the lessons from nature: Sue Penix, Clare Nugent, Ruth Wilson, Michelle Pratt, Nancy Rosenow, Andrea Knutson, Rachel Larimore, Sally Haughey, Jody Martin, Emma Burkholder-Duffy, and Pradnya Patet.

A very special thanks to Sonia Semana, without whom the idea of creating questions for study groups or professional development would not have happened. Thank you for your insight and marvelous work to

make this book a perfect study and reflection guide for many educators.

Thanks and gratitude to Michelle Pratt, Angela Foley, and Chloe Forsman for their support, inspirational vision, and beautiful images of their New Shoots Children's Centres in New Zealand—and especially for the opportunity to work with Enspirement (www.Enspirement.co) in creating The Potential Place, which is a framework and tool to help educators design inspiring environments.

Considerable thanks go to Kids Country Day School for helping us gather just the right images to support our design ideas. Special thanks to Ashley Satterfield, Christopher Sickels, Melissa Brown, Christi Knight, Kristi Karaffa, Emma Burkholder-Duffy, and Derek Burkholder for gathering and taking images.



Our heartfelt thanks go to all the early childhood centers, educators, and administrators who permitted us to photograph their facilities and children. With your help, this book became a reality, and we are so very grateful. Special thanks to Toni Christie from ChildSpace and to Debra Ward from Cerritos College Early Learning Center and Heather Ferillo from Bright Horizons for sharing images from their inspirational center.

Thanks go to Gary Bilezikian, Prakash Nair, Nick Kovacs, and Faith Swickart in appreciation for their industry leadership and valuable knowledge and for listening when we needed an ear or an opinion.

This book was founded on Edward O. Wilson's theory of *biophilia*, which is a love of nature and the need for all humans to connect to the natural living world. It is our hope that the ideas and thoughts presented in this book will help transform how early childhood educators think about designing environments for infants, toddlers, and twos.

Lastly, this book was inspired by Sally Coulthard's book *Biophilia: A Handbook for Bringing the Natural World into Your Life*. We are indebted to Sally's vision and her unique perspective on understanding how to design beautiful and aesthetically pleasing spaces.



Introduction

This book, which is focused on designing environments for infants, toddlers, and two-year-old children, began as an extension of the work of *Inspiring Spaces for Young Children* (DeViney et al., 2010), which focuses on designing environments for preschoolers. However, it quickly evolved into the idea of using the biophilic design approach and aligning natural elements to the elements of design.

HOW TO USE THIS BOOK

Inspired by Nature is not meant to be read from cover to cover. It is a book of short lessons based on inspirations from nature coupled with practical and innovative strategies, ideas, and tips for designing environments for infants, toddlers, and two-year-old children. Browse and read whatever grabs your attention.

This book is filled with lagniappes—bits and pieces of special information. You will find these little bits of inspiration sprinkled throughout. Be inspired and enjoy!

Quotes:

Memorable quotations aligning with the content

Architects' sketches:

Drawings resembling the work of rough architectural sketches

Illustrations:

Realistic illustrations of nature elements



LAGNIAPPE.

noun. (lan-yap):
a little something special



▶ **Big design ideas:**

Ideas for new construction relating to form, enclosure, light, color, texture, and scale/proportion

▶ **Image gallery:**

Photos aligning with the content

▶ **Simply noted:**

Handwritten notes in the margins of the book

▶ **Tidbits:**

Thoughtful reflections and personal reactions to the lessons from nature

▶ **Embellishments:**

Extra bits and pieces, such as lists, graphs, and resources

▶ **Ponderments:**

Questions for deeper thought, designed to be used as individual self-reflections, as discussion topics with a community of learners, as part of professional development, and/or in a book-study group



Lessons from Nature



“Earth and sky, woods and fields, lakes and rivers, the mountain and the sea are excellent schoolmasters and teach some of us more than we can ever learn from books.”

—**JOHN LUBBOCK,**

First Baron Avebury, English banker, politician, author, biologist, and archaeologist



Nature can teach us limitless lessons if we only take the time to open our eyes and look at its beauty, open our ears and listen to the many sounds and songs that are rippling through the breeze, and open our minds and hearts so we can learn from the Earth and its wondrous and amazing creatures.

Many of nature's lessons are larger than life. Think about how a small, insignificant acorn can grow into a strong and magnificent oak tree. Consider how salmon valiantly swim upstream returning to their birthplace to spawn (Seattle Aquarium, 2016). Marvel about how monarchs courageously flap their fragile wings and fly as far as three thousand miles to their winter homes (The Monarch Joint Venture, 2022). From these marvelous creatures, we can learn huge life lessons such as perseverance, patience, tenacity, or fortitude. But, because nature is wise in so many ways, it also can teach us smaller but not



any less important lessons about designing environments or habitats for young children.

What exactly can we learn from nature? What can sea turtles, a bunch of grapes, lightning bugs, mushrooms, or jellyfish possibly tell us about designing early childhood classrooms? Although it may sound far-fetched, we can actually learn a great deal. This book explores how nature is a wise and noble teacher and offers valuable and important lessons about how to design children's environments.

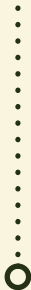
“The wisest and noblest teacher is nature itself.”

—LEONARDO DA VINCI,
artist, scientist,
architect, engineer



INSPIRED BY NATURE: DESIGNING PLAY PLACES FOR THE LITTLEST LEARNERS

Vanilla & Scents



Involuntary memory is a term coined by French writer Marcel Proust, who wrote about his adulthood experience of tasting tea-soaked crumbs from a madeleine cake (a shell-shaped sponge cake). It took just one tiny bite of the buttery cake mingled with the lime-flavored tea for childhood memories to involuntarily fill his mind (Walsh, 2020). Involuntary memory (also called Proustian memory) is a phenomenon triggered by our senses. These sudden, unexplainable moments have often been called sensory déjà vu—or a feeling of having already experienced the present situation. Although Proust’s involuntary memory of the sponge cake and tea was triggered by the sense of taste, research has discovered that it is the sense of smell that has a stronger link to memory than any of the other senses.

Are there any smells you remember from childhood? Perhaps it was the smell of your great grandmother’s talcum powder, a freshly mowed lawn, or the aroma of Sunday’s pot roast dinner.

The smell of freshly baked vanilla cookies is delicious, but the scent of a hug is powerful.

It might be the musty smell of the family's camper or the stuffy odor of the vacation lake house, or even the smell of your mom's favorite shampoo in her hair. All of us have childhood memories associated with smell.

LESSONS LEARNED

Smells Are Important and Powerful Elements of Aesthetic Design

So, what smells do you associate with environments where people care for small children—especially those spaces with diapered children? Most likely, some odors are not exactly pleasant because young children's diapers leak, babies spit up, poopy pants need changing, and food or formula gets spilled. It is a well-known fact that child-care centers are breeding grounds for unpleasant smells.

- Include pots of bright-smelling fresh herbs, such as rosemary, lavender, and lemon basil in the classroom.
- Even on a brisk day, open the classroom's windows for a few minutes and let fresh air flow into the room.
- Situate bowls of sweet-smelling potpourri on high shelves out of the reach of small hands.
- Put fresh cinnamon sticks or bars of scented soap in small mesh bags, and position them around the environment out of reach of children.
- Put dirty diapers into plastic tie bags and then place them in a high-quality covered diaper pail designed to hold smell in. Empty the diaper pail twice a day.
- Make a mobile of dried oranges, lemons, and limes. Add other fragrant materials, such as cloves and cinnamon sticks. Hang the citrus fruits on a small tree branch over the changing table, out of reach of children.
- Cut fresh pine boughs and place them around the room. Try adding these fragrant branches to the block area or in an unbreakable flower vase in the home living area for extra olfactory experiences, but keep them out of reach of children.

Rather than being known for ugly smells, what if early childhood environments for wee ones became known for happy and pleasant aromas, such as the smell of vanilla? Here are some ways to infuse happy and pleasant smells into young children's environments.



- Jab fresh rosemary or lavender in clay mounds and place them around the classroom. Making clay mounds with fresh herbs is a fun sensorial experience for young children.
- Add an aromatic bouquet of fresh flowers in the room.
- Place the changing table near a window that can be opened to chase away offensive smells. If possible, install an exhaust fan above the diaper-changing table.
- Install an ionic air purifier, which sends out a harmless charge that attaches to airborne particles and purifies the classroom air. For more information on the types and reviews of ionic air purifiers, visit <https://smartairfilters.com/en/blog/choosing-classroom-air-purifier-guide/> or <https://air-purifier-ratings.org/>



Embellishment

For additional information on nontoxic environments for young children, check out these two resources:

- Eco-Healthy Child Care Checklist (<https://cehn.org/wp-content/uploads/2015/11/EHCC-Checklist-Home-Print-3.2016-Final.pdf>), which offers thirty easy-to-follow steps for creating healthier environments
- Caring for Our Children: National Health & Safety Performance Standards. Guidelines for Early Care and Education Programs, 4th ed., a publication written by American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care Centers

Big Design Idea

The smell of coffee brewing is a heavenly scent—especially in the morning for working parents. Design a built-in coffee bar in your center’s lobby, complete with a sink and small refrigerator as well as a few comfortable chairs. Complete the parent coffee bar with a bowl of fresh apples and maybe some freshly baked cookies or morning doughnuts.



The background of the page is a vibrant, abstract collage of colors including shades of green, orange, and brown. It features stylized illustrations of vanilla flowers in white and yellow, and dark brown vanilla pods with their characteristic curls. The overall aesthetic is warm and inviting, reflecting the theme of vanilla scents.

Tidbit

The Scent of a Hug

*by Sally Haughey,
founder of Fairy Dust Teaching*

As a curator of a learning environment, I always took into consideration the experience a child had when giving me a hug. Think about it. They hug us and their faces snuggle right into our bellies. Here's the thing: Scents take a direct route to the limbic system and are deeply connected to memory. So, a comforting smell helps build a positive experience.

I spray my belly with French vanilla perfume. I have worn it for more than thirty years. One mom told me that she and her daughter had gone into a local bakery to buy cupcakes, and her daughter shouted "I smell Mrs. Haughey! Do you think she is here?"

The scent is so light that you will not smell it after the first few minutes—but everyone else will smell a hint of vanilla that smells like cake baking. It is divine.

LESSONS LEARNED FROM VANILLA



Coffee bars not only add to the center's aroma but create a sense of home. They can be as elaborate as a built-in coffee bar or as simple as a side table with a coffee maker.



PONDERMENTS

- What smell do you associate with joy and why?
- Take a moment to close your eyes and stand in the middle of your classroom. What can you smell?
- Plants are a great way to enhance the air quality in your class and often bring a new natural scent. Brainstorm a list of plants or herbs that you might bring into the environment. Don't forget plants native to your area.



Mushrooms & Hideaways



Although mushrooms can be found most anywhere—bogs, open lawns, meadows—their favorite habitat is deep in a dimly lit forest. They pop up on fallen trees and rotting logs, in peat and rich soil, or on mossy rocks. Mushrooms have the uncanny ability to find extraordinary habitats and beautiful spots to call home.

While some mushrooms appear to enjoy being out in the open, many like to find secluded places to set up residency in out-of-the-way and partially hidden hideaways. Children are much like mushrooms. Because they are social beings, children have an innate need to be with others, to be sociable, and to have friends. Yet, even though they may not be aware or personally understand, children also have an innate need—and the right—to be alone so they can regroup, recalibrate, and refocus.

Just like mushrooms, children have the need and right to be alone.

LESSONS LEARNED

Create Tiny Spaces for Children's Refuge

Too often, early childhood educators focus on the large picture when designing environments for young children. For example, educators carefully design learning centers, such as home living or block areas that occupy a lot of space, but have a tendency to overlook creating small spaces where children can stow away. It is important to be sure that there are special hideaway spots in the environment where children can find refuge. When thinking about hideaways, consider spots where children can safely get



in, behind, or under equipment or furnishings. Consider using camouflage netting, which is lightweight and fairly transparent, so children feel isolated and hidden, but where you can easily see and monitor their actions. Most importantly, think small when creating hideaways for just one child. Young children are small and do not need a lot of physical room. Called psychological containment, this approach means that, in their minds, they feel hidden away. And that is all you need to create the perfect hideaway.

LESSONS LEARNED FROM MUSHROOMS

Cardboard boxes make terrific hideaways for any age child, but especially for a toddler.



Tidbit

The Magical Place at the End of the Street

by Diane Ohanesian, early childhood development expert and storybook author

I recall a wooded lot at the end of the street I grew up on. This was a magical place where we worked out our “wonderings”: Why do trees grow so tall? How can I climb to the top? What can I make with these leaves? And, of course, much more.

We would collect so many of the things we found in this wooded space and return home to create spaces of our own. We would make squares with the twigs and use the rocks we carried back to see if we could toss them into the space we called out. We would use the leaves, twigs, and acorns to make crowns for our plays and dramatizations. We’d tell “scary” stories about the things we found in the woods—but promised not to tell or else!

The world of children’s hideaways offers an important doorway into the world of imagination, an opportunity for time and space to think alone, a place where nothing is dictated and anything is possible. Yes, mushrooms + canopies + hideaways = a must!

**Yes, mushrooms + canopies
+ hideaways = a must!**

PONDERMENTS

- Where in your home can you hide away and feel at peace? Why do you think you feel this way? How can you bring this feeling to your classroom?
- In thinking about the design of your indoor classroom environment, what are some the places you notice children often go to hide away? Why do they choose these places?
- Where can children find time to center their energy in your classroom? Do you have a place for children to be alone in or maybe a place where they can gather their thoughts? Create a list of what is needed for you to create places for children to hide away.

CREATE A SENSE OF PLACE FOR INFANTS, TODDLERS, AND TWOS

What can jellyfish, a bunch of grapes, or dandelions possibly teach us about designing early childhood classrooms? As it turns out, quite a lot! *Inspired by Nature: Designing Play Places for the Littlest Learners* explores how nature offers valuable and important lessons about transforming classroom spaces into places where infants and toddlers can thrive.

Discover what mushrooms can teach us about cozy hideaways. Learn what sea turtles can show us about wayfinding. Find out what lightning bugs can share about illumination. Squirrels and handwashing sinks? Yes, that too! Horses and learning centers? Of course!

With gorgeous photos and intriguing connections, *Inspired by Nature: Designing Play Places for the Littlest Learners* will help you see your infant, toddler, or twos classroom in a whole new way. Learn how to:

- make your classroom twinkle like fireflies.
- optimize storage space like honeybees.
- create a cozy environment like the forest.
- see from different angles like alligators.

There's so much more to learn, so let the exploration begin!



SANDRA DUNCAN, EdD. Her vision is to preserve the miracle and magic of childhood through play-space environments. She is an international consultant; author of seven books on environmental design of early childhood places; designer of two furniture collections, *Sense of Place* and *Sense of Place for Wee Ones*; and is adjunct faculty at Nova Southeastern University. She has designed and taught university courses on built early learning environments and collaborated with architects, interior designers, and educators to create extraordinary places for all ages.



CHRISTINE BURKHOLDER has served as a teacher, director, district manager, and entrepreneur in the early childhood field. She was the founder and CEO of Reggio-inspired Kids Country Day Schools in Ohio, and she is currently the CEO of Designing Environments for Growth and Inspiration (DEGI) for early childhood settings.


Gryphon House
www.gryphonhouse.com

GH15989 \$49.95

ISBN 9780876599389



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