



Cultivating Ecological Literacy in the Montessori Classroom

MSM Conference 2017

By Tara Lamoureux Hartley & Seth Johnson

What is Ecological Literacy? (David Orr, Fritjof Capra, Daniel Goleman):

- Our ability to understand the basic principles of ecology and live accordingly
- Integrates three forms of intelligence - emotional, social and ecological
- Empathy is key to becoming "ecoliterate"
- An ecologically literate person is able to examine the world from an expanded perspective - from self, to others, to all living systems.

Why Ecoliteracy?

The Future

- Essential for the long term sustainability of human civilization
- We must understand how nature organizes itself and model our cities, products and institutions on nature's designs.
- Ecological sustainability requires new habits of mind, heart and hand.



CENTER FOR
ECOLITERACY

The Present

- Kids today spend over 50 hours a week on some device and 90 of their time indoors.
- Childhood obesity has increased from 7% in the 1980's to 18% in 2012.
- Preschool kids are the fastest growing market for anti-depressants

"The children and nature movement is fueled by this fundamental idea: the child in nature is an endangered species, and the health of children and the health of the earth are inseparable." (Richard Louv)



Benefits of Nature include:

- Improved health outcomes
- Stronger academic performance
- Increased opportunities for social and emotional learning
- Strong social connections to family members and community
- Increased creativity, self-esteem, focus, cooperation, and executive function

Montessori & Ecoliteracy: A Natural Symbiosis

"The land is where our roots are. The children must be taught to feel and live in harmony with the earth."
(Montessori)

"Education is a natural process carried out by the child and is not acquired by listening to words but by experiences in the environment." (Montessori)

Connecting Theory to Practice

You can view and download our Prezi at:

<http://tinyurl.com/cultivating-ecoliteracy-prezi>

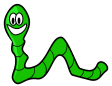


Shifting the Mindset: The Roots of Ecoliteracy



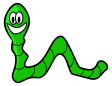
The Universe Story: Extending Our Time Horizons Through “Big” History

- Hot, Flat, & Crowded (Appreciating the Ecological Moment)
- Living in the Ecozoic Era (A Story of Hope vs. Despair)



The Art & Science of Systems Thinking: Seeing An Interconnected World

- A World of Systems (Identifying Types)
- How Systems Work (Experiencing Archetypes)
- Principles of Ecology (The Nature of Nature)



Embracing Deep Ecology: Viewing Humans As Part of Nature

- Ecophilia vs. Ecophobia (Love Conquers Fear)
- The Web of Life (A Communion of Subjects)



From Ecoliteracy to Ecodesign: Biomimicry As Sustainable Solution

- *Biomimicry* by Janine Benyus
- One Example: The principle “Waste = Food” leads to “Reduce, Reuse, Recycle”
- “Bioneers” have developed many practical applications (e.g. bullet trains in Japan are inspired by Kingfishers)



Montessori: An Ecological Approach

- The Whole Child As Self-Organizing Learner
- The Prepared Environment as Ecosystem of Learning
- A Diverse, Multiage Community of Learners
- Information Flows through Work Cycle
- Dynamic Balance Through Freedom with Responsibility
- Development of Classroom & School Environments Over Time



Greening Montessori: Ecoliteracy Across the Ages



Our Cosmic Curriculum: A Fresh Perspective On What We Already Do

- The Great Lessons (Making Interdependence Concrete)
- Fundamental Needs of Humans (Unity Within Diversity)
- Montessori Biology (Classifying & Analyzing Living Systems)
- Montessori Geography (Connecting Species & Environments)



Pedagogy of Place: From the Global to the Local Environment

- Goes Out (Connecting Through Our Senses)
- The Story of Our School (Exploring Local Geography & History)
- The Green Schoolyard (What Every Child Deserves)



Ecological Routines & Rituals: Reducing Our Ecological Footprint

- Food (Awareness of Nutrition & Impact)
- Clothing (Making Threads Last)
- Shelter (The Promise of Green Buildings)
- Transportation (Reducing Emissions One Ride at a Time)
- Water & Energy Use (Promoting Mindfulness Through Visual Cues)
- Stuff (Practicing Needs vs. Wants)



Cultivating Ecoliteracy the Montessori Way

- Build Empathy
- Make It Concrete
- Observe to Understand
- Learn to Think & Act Cooperatively

Using the “Cultivating Ecoliteracy” Toolkit

Please access the toolkit at the following link:

<http://tinyurl.com/cultivating-ecoliteracy>



Help Us Make It Better!

Note: If you have lesson plans, routines or resources related to ecoliteracy that would be helpful to others, please email us and upload them to the “Ideas & Submissions” folder in the toolkit . We will contact you and integrate them into the structure of the toolkit with **you** listed as the “owner” of the materials.

SELECTED RESOURCES ON ECOLITERACY

Books:

- Capra, Fritjof. *The Web of Life: A New Scientific Understanding of Living Systems*. New York: Anchor, 1996.
- Goleman, Daniel, Lisa Bennett, and Zenobia Barlow. *Ecoliterate: How Educators Are Cultivating Emotional, Social, and Ecological Intelligence*. San Francisco, CA: Jossey-Bass, 2012.
- Louv, Richard. *Last Child in the Woods: Saving Our Children from Nature-deficit Disorder*. Chapel Hill, NC: Algonquin of Chapel Hill, 2005.
- Louv, Richard. *Vitamin N: The Essential Guide to a Nature-rich Life*. Chapel Hill, NC: Algonquin of Chapel Hill, 2016.
- Meadows, Dennis L., Linda Booth Sweeney, and Gillian Martin-Mehers. *The Climate Change Playbook: 22 Systems Thinking Games for More Effective Communication about Climate Change*. White River Junction, VT: Chelsea Green, 2016
- Orr, David W., and Fritjof Capra. *Hope Is an Imperative: The Essential David Orr*. Washington: Island, 2011.
- Seed, John, Joanna Macy, Arne Naess, and Pat Fleming. *Thinking like a Mountain: Towards a Council of All Beings*. Philadelphia, PA: New Society, 1988.
- Seattle, Susan Jeffers, and Atha Tehon. *Brother Eagle, Sister Sky: A Message from Chief Seattle*. New York: Dial, 1991.
- Sobel, David. *Childhood and Nature: Design Principles for Educators*. Portland, Me.: Stenhouse, 2008.
- Sobel, David. *Place-based Education: Connecting Classrooms & Communities*. Great Barrington, MA: Orion Society, 2005.
- Sweeney, Linda Booth., and Dennis Meadows. *The Systems Thinking Playbook: Exercises to Stretch and Build Learning and Systems Thinking Capabilities*. Massachusetts: Turning Point Foundation, 1995.
- Sweeney, Linda Booth, and Jana Christy. *When the Wind Blows*. New York, NY: G. P. Putnam's Sons, an Imprint of Penguin Group (USA), 2015.
- Sweeney, Linda Booth. *Connected Wisdom: Living Stories about Living Systems*. S.l.: Seed, 2009.
- Sweeney, Linda Booth. *When a Butterfly Sneezes: A Guide for Helping Kids Explore Interconnections in Our World through Favorite Stories*. Waltham, MA: Pegasus Communications, 2001.
- Swimme, Brian, and Thomas Berry. *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era--a Celebration of the Unfolding of the Cosmos*. San Francisco, CA: Harper San Francisco, 1992.

Websites:

- Biomimicry Institute <https://biomimicry.org>
- Center for Ecoliteracy <https://www.ecoliteracy.org>
- Children & Nature Network <http://www.childrenandnature.org>
- Macy, Joanna. *Welcome to All Beings* <http://joannamacy.net>
- Sweeney, Linda Booth www.lindaboothsweeney.net
- Promise of Place <http://promiseofplace.org>
- Robertson, Katie. "Wholemindedesign." <http://wholemindedesign.com>