Engaging Children and Youth as Agents for Sustainability

Louise Chawla
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What pivotal experiences in childhood and youth prepare people to actively care for the natural world and environmental justice?
pivotal experiences in developing active care for the natural world

- developing a connection to nature through extended play and exploration in nature in childhood and adolescence
- enjoyment of agency and discovery in nature
- appreciative attention to elements of nature
- learning active care for nature through role models and apprenticeships
- developing a social environmental identity
- engaging in collective action to investigate and address environmental issues
Why do people who actively care for the natural world often report extended play and exploration in nature in their childhood or adolescence?
central human capabilities - Martha Nussbaum

- life
- bodily integrity
- bodily health
- play
- emotions
- practical reason
- control over one’s environment
- affiliation with other species
- social affiliation
- senses, imagination & thought
- affiliation with other species
- control over one’s environment
William James and the ecological psychology of James Gibson:

The world is not a neutral, unstructured ground on which our minds impose value, meaning and structure. It comes to us full of meaning, value and structure—information we detect and select.
We detect and select information in the world through movement and action.

James Gibson

*The Ecological Approach to Visual Perception*
The environment’s meaning comes to us as affordances—opportunities for action in the environment. The best environments offer diverse affordances and a rich flow of sensory experiences.
Affordances are present in the environment whether an organism detects and uses them or not; yet they are both objective and subjective, as their actualization depends on the capabilities of the organism.
photo by Andy Howard
The natural world is full of affordances that children can creatively detect and construct.
nature’s loose parts

all photos by Emily Stanley
Because the natural world was not created by human beings to support socially defined functions and roles, children can respond creatively. Therefore the natural world affords many opportunities for mixed-gender and gender neutral play.
In her observations of 1-6 year old children in a Swedish nature preschool, Eva Anggard observed four play themes in the woods.

war and superheroes – for boys only

photo by Eva Anggard
family play – as the mother, girls had roles of power, but boys could join
physical play – for boys and girls

boy and girl jumping “into the bathtub”

photo by Eva Anggard
animal play – for boys and girls

boy and girl playing snail family

photo by Eva Anggard
Nature affords many opportunities for socially creative and cooperative play.
Through all of these experiences, children are developing connection and a sense of agency in nature.

photo by Angela Meyers
These are **primary experiences**—firsthand information that human beings acquire from their environment by looking, listening, feeling, sniffing and tasting—by direct contact with things, places, events and people.

Primary experiences allow us to explore and engage with the world for ourselves.

Edward Reed

*The Necessity of Experience*
When parents and other adults provide opportunities for children to encounter nature through free play and exploration, they give children “fields of free action” within “fields of promoted action.”

Edward Reed

Encountering the World

a family nature club
photo by Chiara D’Amore
Through social referencing, children learn how to respond to new and uncertain situations.
Natural areas for free play are examples of the best environmental condition for children in the terms of Marketta Kyttä:

independent mobility in a field of free action that is rich in engaging affordances.
Accessibility: nearby resources

Mobility: freedom to autonomously explore the environment

An animate organism

Growing environmental knowledge and competence

Encounters with responsive affordances

Perceptible self-produced effects

Graduated challenges

Motivation to continue exploring and using the environment
Through active encounters with the natural world, children’s bodily health, senses, imagination, thought, emotions, playfulness, control of their bodies, sense of control over the environment, social affiliation and affiliation with nature develop.
phytoncides boost natural killer cells & the immune system
diverse microbiota build a strong immune system
antiviral effects of geosmin in forest soil
lower rates of many diseases
better mental health
greater sense of wellbeing and happiness

photo by Emily Stanley
more efficient cognitive processing

more focused attention

better memory functioning

better impulse control

less brooding

increased activation of insula and anterior cingulate—parts of the brain associated with pleasure, empathy, unconstrained thinking

deep neural connections in the brain from play in early development

photo by Chris Berthelsen
opportunities for social connection and collaboration

more creative & collaborative play

moderate to vigorous exercise

reduced stress

less noise

fewer distractions

fractal patterns

fascination & mystery awe

photo by Mirjana Petrik
How do appreciative attention to elements of nature and skills to care for the natural world develop in childhood?
In the words of Edward Reed, through their physical and social encounters with the world children are “becoming a person.”

Their caretakers must make “proper persons” out of them, who know what to do where, when, how and with whom.

Edward Reed
Encountering the World
Through processes of **joint attention**, a child and its caretakers indicate to each other what is worth noticing and how to respond to it.

photo by Holly Hunter
Children & Nature Network
photos by
Karen Malone
photo by Alanna Medearis
Children & Nature Network

Aldo Leopold Nature Center
Look closely -- a field of promoted action
If children are lucky, they grow up with people who are willing to follow the child’s indication of things worth attention.

photo by Molly Sewald
During episodes of joint attention, the guide can show respectful, caring treatment for living things.
Through narrative, children can be encouraged to turn innate empathy into understanding sympathy.
children in a Danish forest preschool – photos by Inger Lestrup
Joint attention and promoted action are part of apprenticeships to learn skills to care for the world.
As children learn skills, they can take responsibility to perform caring actions for the environment individually and in groups.

Through mastery experiences, they acquire a sense of self-efficacy and collective efficacy to achieve meaningful goals.

photo by Sylvia Samborski
In collective action for the environment, children’s role models are adults and other young people like themselves.
When children and adults belong to groups that care for the environment, they develop a social environmental identity.

photo by Holly Hunter
photo from Thorne Nature Experience
pivotal experiences in developing environmental justice activism

- [for some environmental justice activists, developing a connection to nature]
- growing up in a family with an ethic of social justice
- learning active care for people in conditions of disadvantage
- direct experiences of social injustice, environmental injustice
- engaging in collective action to investigate and address environmental justice issues
  - developing a social environmental identity
central human capabilities - Martha Nussbaum

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Parents who foster prosocial development model empathy and sympathy to their own children and encourage their child’s natural empathy for others’ suffering, as well as caring responses.
Young people motivated by a sense of social and environmental justice have often witnessed difficult circumstances firsthand.
Working in solidarity with other youth for environmental justice cultivates a social environmental identity.
Creating a sustained framework for child and youth participation in environmental problem solving on a city level

photo by Stephen Cardinale
Growing Up Boulder

UNESCO
Growing Up in Cities
advocacy planning
participatory action
research

UNICEF
Child Friendly Cities Initiative
children’s rights
Convention on the
Rights of the Child
Habitat Agenda

UN HABITAT
City of Boulder
Community Planning & Sustainability * Transportation * Parks & Recreation * Open Space & Mountain Parks * Children, Youth & Family Services * Arts & Culture * Boulder Housing Partners
Boulder Valley School District
University of Colorado

* I Have a Dream * Youth Services Initiative * Boulder Museum of Contemporary Art * Boulder Journey School * and other groups as they share interests
a fall participatory design project in a public school passes children’s ideas to a spring undergraduate design studio that passes ideas to the Boulder Department of Community Planning and Sustainability

Great Green Neighborhoods project
As the 8-9 year olds began to study the design of green, child-friendly family housing in a flood plain, a 100-year flood hit their city.
GREEN HABITAT

Informing family friendly sustainable living via high-density neighborhood design.


ENID 3300 GREEN NEIGHBORHOOD DESIGN PRAXIS SPRING 2016. MICHAEL TAYEL & DAVID KHAN
Growing Up Boulder enables children and youth to move through a variety of behavior settings for civic deliberation: classrooms, public workshops, City Council meetings.

**behavior setting**: a stable pattern of action among interdependent individuals in a specified location at a scheduled period of time

Roger Barker

_Ecological Psychology_
“We need to promote the ability to experience the world. To do this we must recognize that a certain amount of hands-on, direct experience is crucial. Similarly, a certain amount of group engagement, of learning how to work on firsthand problems with others is also crucial.”

Edward Reed
The Necessity of Experience
“Because all human experience, from the simplest stroll to the most complex technical skill, carries limitless possibilities, the most important aspect of our experience, hope, is not a subjective feeling but an objective property of our encounters with the world. In its broadest sense, hope means that a goal is achievable.”

Edward Reed

*The Necessity of Experience*, 153
“Hope . . . is rooted in direct, not secondhand experience.”

“Hope is neither subjective nor private. It is an aspect of public experience and public action.”

Edward Reed
*The Necessity of Experience*, pp. 153,

Growing Up Boulder students getting the bench near their school bus stop that they identified as a need.
In her research on how Swedish children and youth cope with climate change—a problem that is greater than an individual can cope with alone—Maria Ojala found the most healthy form of coping when young people found grounds for constructive hope: seeing positive trends such as increased social understanding of the problem, and trust in social actors who take the problem seriously.
Capabilities Approach to Human Development


The Development of Active Care for the Natural World


Learning Empathy and Prosocial Action


Participatory Design and Planning with Children and Youth


Coping with Climate Change

Nature Play


Benefits of Nature Contact


Ecological Psychology


