

Creative Connecting: Early Childhood Nature Journaling Sparks Wonder and Develops Ecological Literacy

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While nature journaling with elementary age children has recently increased in popularity, journaling with children of ages 2-6 is often overlooked. This article focuses specifically on why journaling is a valid practice in early childhood and the practitioner application of journaling techniques modified for the young child. Young children have an inherent sense of wonder and connection to their natural world which can be preserved and enhanced through the cultivation of observation and documentation. The young child, working either one-on-one or in small groups with the adult, can begin to consciously explore the nearby nature of their world. The addition of a journal practice to regular outdoor environment exploration allows the child to assimilate their observations and experiences while laying a foundation for literacy education.

The young child's nature journal is a place for the recording of the natural insights and wonder as developmentally appropriate, rather than the more scientific data collection purposes of an older child's field journal. It is a place for color exploration and recording of the special relationship between the young child and their world through abstract drawings and adult documentation of verbal observations. Prompts may be used with young children, as well as scenarios that enhance seasonal observations, but the journal is foremost a place for spontaneous observation development and "nearby nature" connection facilitation. Drawing on the research of Eyunsook Hyun and Maria Montessori, and the work of Rachel Carson, Clare Walker Leslie, Bill Plotkin, and David Sobel, this article will provide early childhood educators with the resources and motivation to incorporate a sensorial-based journaling practice into their environments.

Keywords: nature journaling, young children, teacher guidance

While nature journaling with elementary age children has recently increased in popularity, journaling in early childhood is often overlooked. Nature journaling is an extremely valuable and valid practice in early childhood environments for facilitating the child's growing bonds with nature as well as meeting a teacher's need to justify increased outdoor time to administrators and parents¹. During the early childhood sensitive period for language development, the natural world can be both an inspiration and a teacher by experientially sparking the child's interest in oral and written language. The act of processing early childhood's natural experiences through language and written expression is invaluable for encouraging deeper nature connections and for allowing wonder to fuel a lifetime of loving learning. While the majority of research on this topic is anecdotal and experiential, it should be considered a useful foundation for building further data on the role nature plays in language development.

Nature journals have the ability to play a significant role in increasing the academic importance of integrating the natural world into language curricula. Journaling encourages the child's sense of wonder by providing a place to record nature experiences in images before written language skills are fully developed. They help solidify the connection between the child and her nearby nature, which as research shows is extremely important during early childhood for developing the naturalist intelligence. Journaling gives the child an outlet to assimilate her nature observations and experiences through drawn and collaged images and then express those through oral language. The journal provides experiential documentation of both literacy and ecological literacy development.

Additionally, support for, and the benefits to, teachers wanting to integrate a journal practice into early childhood environments should not be overlooked. Early childhood educators will find that the child's nature journal provides a chronological anecdotal assessment tool to track skill development as well as creates a portfolio to share with the child's parents and future teachers. The journal documents the child's insights regarding their budding relationship with the natural world. It facilitates assimilation of the child's daily nature experiences. It provides an outlet for motor development through drawing and for language development through story telling. For the young child, the journal is less a place for data collection and more a venue for recording developing insights about the her place in the natural world.

Experiential educator, psychologist, naturalist, and wilderness guide Thomas Smith says, "Words without experience are just words; experience without words is just experience" (Smith, 2011). His philosophy emphasizes the role nature journaling plays in the assimilation of experience, in aiding and improving observational skills, in providing a place to document field investigations, and for serving as a cross curricular forum for the child to relate to the natural world. This idea of linking experience and words is very

¹ Forest Kindergartens are an additional resource for the precedent of increased outdoor time. See the [Cedarsong Nature School's Cedarsong Forest Kindergarten](#) as an example

effective in early childhood and supports the philosophy of Maria Montessori regarding the sensitive period for language and its development through hands-on learning. It also supports Howard Gardener's theory of the development of the naturalist intelligence.

What better place to motivate academic learning than in outdoor classroom environments! Research indicates that time spent outdoors increases enthusiasm for learning, focus, and behavior². The early childhood environment can more easily take full advantage of the current recommendations of increased outdoor time, because "recess" is already accepted and encouraged, unlike in elementary and secondary environments where outdoor time is increasingly being reduced. The key is to provide early childhood teachers the resources and tools to create outdoor experiences that are less "recess" based and more ecologically meaningful for the child through the availability of academic and play based nature assimilation experiences, like nature journaling.

The theory that "One transcendent experience in nature is worth a thousand nature facts" or that the experience "...may have the potential for leading to a thousand nature facts" (Sobel, 2008) is an interesting idea from which teachers can promote increased outdoor learning to administration and parent populations. The idea of facilitating active "transcendent" natural experiences, rather than passive presentations of facts, encourages further thought about how experiential learning and outdoor activities spark wonder and systems thinking³. This theory is a cornerstone of Montessori method and is regularly observed by Montessori teachers as students engage in inspired research projects set in motion by a sensorial experience with the natural world⁴. For example, the discovery of an interesting caterpillar in the outdoor environment is documented in the nature journal, which initiate deeper study of the species. Creative execution of this theory of sparking the child's emotions toward the natural world before presenting the facts increases the educational value of all time spent in the outdoor environment, including during "recess" and free play times.

The nature journal as a spark for natural wonder and connection

"In early childhood, activities should enhance the developmental tendency toward empathy with the natural world" (Sobel, 1996).

In a 1956⁵, Rachel Carson first presented the consideration that "If a child is to keep alive his inborn sense of wonder...he needs the companionship of at least one adult who can

² <http://www.childrenandnature.org/research/>

³ See the Center for Ecoliteracy for more information on creative outdoor learning as a tool for understanding nature as a teacher for systems thinking. "[Seven Lessons for Leaders in Systems Change](#)"

⁴ *Education for a New World* by Maria Montessori provides an overview of the practices of "following the child" and the teacher as observer and guide as pertaining to experiential learning and the child's personal and academic development.

⁵ The article "Help Your Child to Wonder" was first published in a 1956 issue of *Women's Home Companion* and later published in 1965 posthumously as the book *The Sense of Wonder*.

share it, rediscovering with him the joy, excitement and mystery of the world we live in” (Carson, 1965). The necessity of bonding with nature in childhood (for the long term goal of environmental responsibility in adulthood) is a task now often relinquished by parents and left to the teacher. Some educators and researchers even believe that modern “neighborhoods, changed by technology and society, have weakened as growth fostering settings for children” (Rivkin, 1995) and that this degradation of “nearby nature⁶” play space has created an even greater necessity for educator intervention through the creation of place-based nature experiences (with the aim of preventing further isolation between young children and their communities).

Nature experiences at school may be a child’s primary exposure to her natural world and the place where important bonds and ideals are formed. This is why it is imperative that early childhood environments have quality outdoor classrooms that function as more than just a place for children to “let out energy.” They must encompass elements to attract wild nature, such as birds and butterflies, and they must provide sensorial experiences for the child to work⁷ with textures and real tools. An example of this could be a worm bin in which the children are permitted to dig, handle and explore the actual worms while caring for the worms through feeding and tending of the soil or tending a butterfly garden. These are both small and nearby places of nature with appropriate elements of “wild” that teach the young child about empathy, while providing outlets for the development of motor skills, language, and naturalist intelligence. In situations such as these, the young child’s nature journal becomes a venue for drawing worms, abstractly expressing the colors found on a butterfly’s wings, and creating stories that sequence events and help the child assimilate her relationship with the “wild” creatures alongside the adult sharing the experience.

A groundbreaking pattern in environmentally committed adults was discovered by Louise Chawla and supports Carson’s declaration. Chawla perceived that environmentalism grows from “The combination of ‘many hours spent outdoors in a keenly remembered wild or semi wild place in childhood or adolescence, and an adult who taught respect for nature’” (Sobel, 2008). Though Carson stated this in 1956, it has taken time for research and data on the subject to be collected and studied. This finding is referenced often by place-based educators such as David Sobel and in many writings on the childhood and nature connection from the past fifteen years. It also mirrors a century’s worth of educator instructions from the Nature-Study advocates and progressive educators. From Carson herself to Aldo Leopold to Joseph Cornell⁸, adults committed to the preservation of the natural world all had childhoods immersed in nature and an adult companion to guide them and help assimilate the experiences.

⁶ As defined by Gary Naban in *The Geography of Childhood*

⁷ Work being defined in the Montessori sense as purposeful activity

⁸ For further exploration on childhood nature bonds influencing adult environmental ethic, see Cornell’s work *Sharing Nature with Children* and Leopold’s *A Sand County Almanac*.

A future society of “green thumbs”

Humans are born with a propensity for a “green thumb” or naturalist intelligence. The naturalist intelligence⁹ is an evolutionary survival tool or “a nature given intellectual culture and ability we all have in order to survive as human beings” (Hyun, 2000b) according to Howard Gardner’s theories on the multiple intelligences. Those with strength in the area of the naturalist intelligence not only experience love of nature or interrelated systems separately but connect the two and apply them to problem solving in many areas. Therefore, the experiences accumulated in childhood can be said to define our ecological literacy and ability to “think globally and act locally.” Ecopsychologist Bill Plotkin’s work applies nature based psychological and developmental research and method to develop “eco-centric,” rather than ego-centric generations. Childhood is the developmental stage when nature experience is seen as “an appreciation of the world-as-it-is more than a desire to change it” (Plotkin, 2008). As ecologically literate educators, we must consistently provide children the opportunities they developmentally need as contributing members within the systems of the natural world if we are to develop a “green thumb”, or “eco-centric” based outlook supported by a well-developed naturalist intelligence.

Eunsook Hyun presents theory on the idea of Gardner’s “naturalist intelligence” (Hyun, 2000a) as explored in conjunction with its presence in an early childhood “sensitive period” (Hyun, 2000a). Hyun proposes that if the nature intelligence is not nurtured and “if the human environment does not provide a social-emotionally enriched and intellectually congruent support during the early childhood period [generally ages three to six], we may anticipate serious consequences regarding nature preservation which will negatively affect for all” (Hyun, 2000b). This research supports this author’s observation of nature detachment in modern children’s lives and supports her work reconnecting children with nature through gardening, journaling, and the arts, thereby fostering ecologically literate children who will, as adults, be champions of the environment.

When experiencing nature with children, adults must constantly and consciously try to think like children. They must enjoy nature for nature’s sake and see the beauty and potential in little nature, like a rock or a stick. “For young children, [the] natural environment is an everlasting and dynamic stimulator, because children perceive the natural world through their primary perceptions, which are based on their sensory-directed experiences...these primary perceptions are ‘bondings-to-the-earth’” (Hyun,

⁹ Gardner specifically defines the naturalist intelligence as: “the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef.... The kind of pattern recognition valued in certain of the sciences may also draw upon naturalist intelligence (Checkley, 1997).

2000a). This sensitive period must be nurtured by providing appropriate activities for positive nature interaction throughout early childhood (ideally continuing through adolescence) to assure that adequate nature bonding occurs and the ecological brain and naturalist intelligence develop properly. The ecological brain's appropriate development within the sensitive period for the naturalist intelligence will in turn facilitate "green thumbs" and trigger biophilia¹⁰.

It is imperative that adults in the care of children are aware that "we may teach 'feeling of fear' or 'keeping distance' toward nature instead of promoting young children's curiosity and inquiry to learn and care about nature" which "may lead to either *biophilia* or *biophobia* depend[ing] on how adults respond to young children's wondrous mind" (Hyun, 2000b). Maria Montessori also stresses the importance of the teacher's reactions and their power to shut a child off from an experience or learning with merely a disapproving glance. No matter how squeamish an adult may be toward an aspect of the natural world (assuming the child is not in danger), they must never respond in a negative way to a child's enthusiastic presentation of any natural aspect. The adult must respond with wonder and open dialogue, while encouraging connections that help the child assimilate the sensorial experience. Keeping alive what Rachel Carson termed a "sense of wonder" is crucial for blossoming a future ecologically literate society in which all members inherently feel they have "green thumbs." David Sobel (1996) reminds that we must first allow children love nature before we ask them to save it.

As an addition to the research, Hyun provides experiential and interdisciplinary considerations for developing an early childhood environmental education curriculum guideline that cultivates the naturalist intelligence. These guidelines suggest a balance of direct nature experience as well as activities for reflection and assimilation of those experiences. The nature journal is the perfect outlet for these reflection activities. Students who have developed a strong naturalist intelligence not only experience love of nature or interrelated systems separately, but connect the two and apply them to problem solving in many subject areas.

Application of nature journal techniques for formal and non-formal educators

Maria Montessori observed that children want to "bring their activity into immediate connection with the products of Nature" (Montessori, 1948). To purposefully direct the child's work within a natural environment, we must prepare the environment¹¹. The first

¹⁰ Biophilia literally means the "love of life or living systems" and is the hypothesis presented by naturalist and Harvard biologist and researcher E.O. Wilson that there is an instinctive bond between human beings and other living systems; "the urge to affiliate with other forms of life." (Biophilia, 1984)

¹¹ The "prepared environment" is Maria Montessori's concept that the environment can be designed to facilitate maximum independent learning and exploration by the child. In the calm, ordered space of the Montessori prepared environment, children work on activities of their own choice at their own pace. They experience a blend of freedom and self-discipline in a place especially designed to meet their developmental needs. (NAMTA, 2014).

step to implementing an effective nature journal practice in early childhood environments is to create the “playground” space as an outdoor classroom and rename it as such. The outdoor classroom environment should include multiple small garden beds (or large flower pots) with flowers and vegetables to tend¹², designated places for free digging, natural climbing areas such as in small trees with low branches, a “wild” area such as a small compost or brush pile that can be manipulated and explored by the children at will, a wormery, bird feeders, natural loose-parts for play building, creation, and art projects, and a designated area or basket where nature journal and art materials can always be found.

Discuss with the children how the outdoor classroom is a place to use their bodies, minds, and senses to explore. Set the expectation parameters as appropriate to the individual environment and use the term of “outdoor exploration time” instead of “recess”. This sets up the environment as a creative space rather than a screaming free-for-all spot. Circle based sensory observation activities are a great way to acclimate children to the space. Invite the children to sit quietly in a circle. Guide them through a few deep breaths. Then, have the children focus on one sense each circle session; they close their eyes (unless of course the sense is sight) and really acclimate to the natural sensory input coming from the environment. This practice gives children skills to calm their bodies when outdoors and tools that can later be applied to easeful acclimation in any new space.

It is important for the children to be encouraged to engage in the journaling process, in order to learn the techniques, between the ages of 18 months to 3 years. The journals become a consistent part of the prepared outdoor environment just as balls or bubbles are, and should always be available. The children who do not gravitate to it initially may need a little more adult guidance, but should never be forced. As they grow, and when they see their peers interested in the journals, those children’s interest will follow. An appropriately prepared environment inspires the child to explore and learn, so we must put as much care into preparing our outdoor environments as we do the indoor if we expect the same high quality results.

Each week prepare a nature journal based activity, available daily in the outdoor classroom, for the children to engage with. These may be seasonal activities using color changing leaves or an academic based activity that ties indoor lessons to nature such as building the letter “A” with sticks and gluing it to paper. These planned activities are in addition to the regular designated nature journal times and free journal expression (which should always be encouraged by the teacher). In daily or weekly designated nature journal time, students are given a set amount of time to document any aspect of the outdoor classroom environment that sparks their wonder, which is then recorded in pictures and

¹² In environments with children ages 18 months to 3 years, always separate beds of edible and non-edible plants. Teach the children which plants can be picked and eaten and how to appropriately harvest from the plants. This is especially important when growing both edible flowers and butterfly plants as many butterfly plants are not edible.

in oral documentation by the adult, followed by a circle time for peer sharing of documented observations. Sharing experience and observation is an excellent way for students to assimilate their findings and budding naturalist intelligence while bonding over nature with peers. These practices are especially powerful for developing the naturalist intelligence and securing a strong relationship with place and should never be overlooked.

During designated nature journal time, teachers are encouraged to join the children at their children's own learning levels. The teacher no longer has to have all the answers! Together, the adult and child are the students and nature becomes their teacher. They explore and research their feelings and relationships about nature jointly. The child senses this equality and opens to new experiences. The nature journal is where connection to nature, empathy, and ecological literacy meld and flourish.

With children ages 18 months to 3 years, it is important to frequently integrate the journal process into outdoor exploration time through one-on-one teacher-student nature exploration. The adult follows the child as she sensorially explores a natural setting such as a garden, flowerbed, or nature trail. Letting the child's inquiry lead, the adult prompts the child to appropriately use her senses to explore her surroundings and offers the child the opportunity to communicate her findings in the nature journal. The adult then documents in writing any verbal observations and new connections the child makes.

During independent journal time with children ages 4 to 6, the teacher is encouraged to journal (and share) alongside the children. This models the importance and value of the journaling process. The 4 to 6 age group of children will become interested in using words and letters in conjunction with their drawings which can be independently added through the use of a word bank written on an outdoor chalkboard. Full sentences and short stories can be given orally by the child and written by the adult. As language develops, many 5 and 6 year olds become interested in writing their own sentences. It is important for the adult to encourage the use of describing words, why and how connections, and the bigger picture of how it relates to the child's life. Once a regular journal routine is established, the nature journal becomes an anecdotal assessment tool for the teacher. Within the journal, the teacher has a portfolio of thought processes, systems thinking development, observation skills, nature connection, language development, and fine motor skills like writing and drawing. These all revolve around the child's growing relationship with her natural world. Within the pages of the journal, "the student has made her own connections with nature, and on her own terms" (Leslie, Tallamadge, & Wessels, 1996) and a documentation of the developing naturalist intelligence as well as the development of the child within her natural environment is invaluable for further improving the way we teach children with and for nature.

The role of the teacher in outdoor learning

Perhaps most importantly, when beginning to integrate nature journaling into early childhood environments, teachers must remember to engage the children in aspects of the natural world which personally inspire themselves. Teachers should think back on what they loved about nature as children and try to use those memories as motivation for the activities they create for their students. This practice builds confidence in outdoor teaching and sparks wonder in both the teacher and the children. The combination of wonder and confidence germinates the seeds of effective outdoor education.

Regardless of confidence, a lack of support can be one of the greatest obstructions to integrating purposeful outdoor experiences into classroom environments and daily schedules. Even when interest and enthusiasm are present, many teachers feel they are not qualified to lead children in Nature-study or view their own thumbs as “brown” when it comes to gardening (due to underdeveloped naturalist intelligences perhaps). These judgments hinder a teacher’s justification of increased outdoor time to administration and parent populations. Incorporating nature journaling can help immensely with outdoor learning insecurities through its inherent inspiration of academic enthusiasm. Journals give the teacher an academic foundation for increasing outdoor learning time and something productive “to do” outside as the group becomes comfortable with outdoor learning. The continued education of teachers, administrators, and parents or other primary caregivers, on the health and academic benefits of nature in early childhood is an important action for experiential environmental education to become mainstream in early childhood education environments.

NATURE JOURNALING WITH YOUNG CHILDREN

The nature journal is a time tested way to document and assimilate nature experience and discovery and was a very popular pastime during the Nature-Study movement. Nature has been an inspiration to humans throughout history and nature journaling has been practiced by some of humankind’s greatest thinkers, artists, naturalists, and scientists. The journal is a place to document observations and information, and then assimilate discoveries in a creative, yet scientific, way and is where many generate inspiration for their life work. Through journaling, patterns and observations discovered in nature that may have otherwise gone unnoticed or overlooked are tracked. This type of pattern work enhances students’ ecological intelligence and connections to the natural world. It is a natural cross curricular learning tool that cultivates the skill of focused observation and regulates high energy levels generated from the excitement of being outdoors.

Journaling with students 18 months to 3 years is a very flexible process that focuses on the child expressing her thought about nature through color and abstract form and the teacher documenting the child’s verbal expressions toward nature writing. Journaling

with students of ages 4 to 6 years is made available as both a structured activity and something to do independently. When outdoors, this age group can be given a prompt to explore in their journals, or journals can be made available for independent exploration during recess or allotted garden time.

After journaling, invite the children to share a favorite sketch or thought from their journals. This is a great way to encourage assimilation the experience, and assess the students' learning. Then, as developmentally appropriate, embark on group research projects that identify and elaborate on the children's discoveries. Any unidentified natural object can be explored in stories and picture book field guides. This makes the journal a springboard for early biological and historical research. The findings can then be prepared and presented to other classes, at a parent event, or on a bulletin board in a common area.

For those schools with strong technology initiatives, the nature journal is a beneficial tool to be used in conjunction with the iPad (or other implemented device). First, in the nature journals, track and record nature discoveries by hand. Then, use the digital device to photograph and document the discoveries in a blog or other digital scrapbook form utilized by the school for technology integration. While this author does not condone the use of technology in early childhood environments, if it is mandated, combining with the natural world is an effective way to balance the importance placed on technology with the importance of the natural world.

Techniques for journaling with children

Date each page entry and consider including other ways of tracking nature (such as recording the weather, temperature, or tides if in a coastal location). Children 4-6 can draw weather symbols, for example. Let students know that the journals are a place to record in words and pictures the things they see and discover in nature. They are also a place to record their questions and feelings about nature. Remember, the more the students (and the teacher) journal, the better they will get at observation, documentation, and detecting patterns in nature.

Create a nature journal

Of course, a nature journal can be made from any notebook or sketchbook, but there is something extra special about making the books. Journals can be made from materials found in the average classroom. The adult preparation time is about one hour for twenty-five journals. Remember to make a journal for yourself and any assistant teachers so everyone can journal together.

Materials for each book

- 8.5x11 inch sheets of paper (ideally 100% post-consumer recycled). The number of sheets will depend on how many pages are desired in the journal. More pages can be easily added later if needed.
- 1 piece of construction paper or other decorative cover paper, 9x12 inches
- 1 regular rubber band
- 1 thin stick or bamboo skewer, 8.5 inches long
- A single hole punch
- Colored pencils or markers to decorate the covers

Preparation

- Fold the 8.5x11 inch sheets of paper in half horizontally to create 8.5x5.5 inch folded sheets. Depending on the number of pages, the sheets may need to be folded in smaller groups and then compiled into one “book block” or stack of folded pages.
- Measure 1.5 inches from the top and bottom of the “book block” and punch a hole at each mark. Depending on the thickness of the “book block,” the hole punching may also need to be done in smaller groups of pages and then the pages recompiled.
- Fold the cover paper in half horizontally.
- Measure 1.75 inches from the top and bottom of the cover paper and punch a hole at each mark.

Assembly

- Give each child a “book block,” cover paper, rubber band, and stick.
- Insert the “book block” making sure all holes line up. Have the children check if they can see through the hole, if so, then they know the holes are lined up.
- Pinch the rubber band in half and from the bottom, thread it up through one hole so a little loop pokes through.
- Insert one end of the stick or skewer through the loop securing it from falling back through the hole. The stick will be on the top side of the journal.
- Flip the journal over and holding the rubber band tightly, stretch it to the other hole. Pinch and insert the rubber band through the hole. Thread it up through the hole so a little loop pokes through on the top side.
- Tightly holding the loop through the hole, flip the journal back over to the top side and slide the free end of the stick or skewer through the bottom loop securing it from falling back through the hole.
- Have children write their names on and decorate the covers.
- To add more pages, disassemble the book and add a second “book block” stacked underneath the first. Do not place the new book block inside or around the first

this will rearrange the journals chronological order. Reassemble the rubber band and stick or skewer.

CONCLUSION

As the research on the importance of nature connection in human life generally and in childhood specifically continues to be compiled and popularized, increased all-weather outdoor time will become easier for teachers to validate and actualize. Until mainstream education and culture fully embrace the necessity of a healthy natural world for a healthy human population, it is up to innovative and creative formal and non-formal educators to bring the child to nature and keep the inherent wonder and connection of childhood sparked. Starting in the early childhood outdoor classroom environment, we must facilitate meaningful nature connections through experiential activities like sensorial observations and nature journaling. These foster the naturalist intelligence and academic enthusiasm. We must continue these practices throughout childhood and adolescence, subsequently, transforming a culture of ecologically literate adults who possess the strengths of creativity, connection, expression, and assimilation, and who apply their strongly developed naturalist intelligence to environmentally responsible lifestyles. "Wonder and humility are wholesome emotions, and they do not exist side by side with a lust for destruction...by cultivating a child's wonder, you are cultivating a future of hope" (Dunlap, 2012). Let nature be the guide and the child's nature journal tell the story.

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