

**Bringing Nature-Based Expressive Art Processes to the World of Children's Literature**

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**Abstract**

There is plenty of children's literature that focuses on nature, yet little of that literature encourages children to think about nature in terms of mindfulness or as an artistic experience and expression. The theories and tools that have been developed in practices such as nature-based art therapy encourage individuals to think about nature in artistic terms. The findings from these practices have shown to increase the overall wellbeing of individuals while simultaneously facilitating a healthy spiritual relationship to the natural world. The research shows that the spiritual health of humans and the health of our environments are connected. There is a lack of education in teaching children how to become spiritually healthy or connect with their natural environment. The canon of children's literature ought to be expanded to include more works that encourage children to view nature in terms of artistic experience and expression so that children can benefit in four significant ways: they can gain the health benefits of mindfulness, they can grow spiritually through realigning themselves in "a sensitive way to the shapes and expressive forms of more than human nature" (Stoknes, p.14), they can become more equipped to creatively confront the environmental challenges of our times, and they can gain greater motivation to spend time in nature. Spending time with nature is essential for building a deep relationship with it which can result in environmental stewardship becoming a stronger human value. My storybook assists in this project by utilizing a poetic language that is accessible to children, by representing ecosystems in a way that highlights their artistic forms while employing mindfulness techniques through their engagement with those naturally artistic forms in nature. Additionally, this paper will be accompanied by a lesson plan that can help to encourage teachers to incorporate more of this type of practice into their pedagogy.

*Keywords:* children's literature, nature, artistic experience, artistic expression, mindfulness, environmental challenges, land stewardship, nature-based art therapy, pedagogy

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**Chapter One: Introduction**

Emerging research combined with ancient wisdom points to a connection between the health of our environment and the health of individual inner worlds. We are often reminded that our environmental and societal health is less than thriving. Although there are a wide range of efforts to remedy these complex issues, they are typically exercised from a fragmented perspective. This fragmented point of view is a consequence of the secularization in western society and education. How can we use creativity to confront the lack of spiritual connection to our planet as individuals on a global scale? This is one of

the main purposes behind creating my children's book. It serves as a model for building a genuine personal connection with nature, and one innovative approach is to do this through experiencing nature through an artistic lens. It also serves as a model for developing mindfulness skills which have been shown to improve mental and spiritual health. The purpose of this paper is to explore how people can utilize mindfulness through artistic processes to help them solve individual and global imbalances.

### **Purpose of my Children's Book**

Although environmentally-focused children's literature may bring awareness to certain environmental issues, it rarely teaches kids to develop a deep connection to nature itself. As Bjørg Oddrun Hallås and Marianne Presthus Heggen (2018) wrote beautifully in their article, *We are all Nature*:

Our immediate surroundings, such as the air, water, food and pets are natural entities. Given that we eat and breathe nature, are subject to the laws of nature, and are mutually dependent on nature, it seems logical that humans are part of nature. (Bjørg & Heggen, p. 261)

Hallås and Heggen's article reinforces a need for an ecocentric perspective to achieve a sustainable society. It elaborates the point that in order to create a paradigm shift, a significant change must be made in our human relationship with nature. We must make a shift from scientifically analyzing nature to experiencing intimacy with nature in its truest form. My book models research-based methods which promote a genuine personal nature connection using artistic behaviors and processes.

### **My Story**

"Who wants to sign up for the camping field trip?" I asked my art students who attend an environmental-themed school in Grand Rapids Public Schools. You would expect an enthusiastic response, but only a fraction of them expressed any excitement about staying a few nights in a tent amidst the Michigan wilderness. Inspiring city-dwelling middle and high school students to appreciate, get comfortable with, and connect with nature is difficult. Nature is often narrowly thought of as "dirty" and can feel chaotic in comparison to the seemingly organized concrete human habitat of the urban landscape. Whenever I plan outdoor learning excursions, I will often hear responses such as, "I don't want to mess up my shoes" or "What if it rains? Do we still have to go?" Most of my students have not grown up with

role models who practice environmental stewardship values let alone anyone who displays a genuine enjoyment and appreciation for nature. Therefore, a large fraction of my students rarely leave the city with the intention of enjoying nature.

One requirement for being enrolled in our environmentally themed school is that our students must take an environmental science lab course at least twice throughout their secondary education. At some point, all of my students learn environmental content and data and perform stewardship tasks, such as removing invasive plants on school grounds and picking up litter. They have become well aware of specific issues involved in the rampant environmental degradation, including species extinction, environmental contaminants, and disruptions with balances in biodiversity (Erren, Meyer-Rochow, Steffany, & Zeuß, 2009).

Despite this requirement, many students still do not seem to develop an attitude of pro-environmental behavior which is deeply concerning. From what I've observed, something is missing. Students may be intellectually on board for environmental conservation, but few seem to have their hearts in it. Nick Neddo, a nature artist, author, wilderness skills teacher and survivalist comments on this phenomenon:

[The ecosystems which exist all around us include] larger, unbroken wilderness as well as the miniature forgotten wildernesses that exist behind the gas stations in shopping malls, between the houses and roadways, and along the waterways from great rivers to diminutive trickling streams. Many people do not experience these natural treasures because they are afraid of some mysterious possible hazard. People tend to fear things they do not understand, and we destroy the things that we fear. Does this insight have any relevance in the human role of today's ever threatening environmental collapse? (2015, p.10)

### **A Reflection of a Larger Societal Problem**

There is a need for a more holistic approach in education with a specific inclusion of nurturing the human soul. The link between the health of the human soul, awareness of interconnection to the universe, and the health of our planet are inseparable (Miller & Moore, 2000). The secularization of education has made it so that we are not teaching at the deepest "soul level." Thus, it is no surprise why a

large fraction of students across our western society are lacking an intrinsic motivation to enrich their personal spirits.

When it comes to enriching the spirit, the arts are some of the most effective vehicles for speaking to the soul (Bardsley, 2015). According to Bloom's taxonomy model, employing creativity is a practice that is uniquely human which activates the highest order of thinking (Armstrong, 2010). This is not to say other school subjects do not nourish the soul, but the arts in particular integrate seamlessly with the language of symbols, ritual, and existential thinking. In quality art education pedagogy, there is an intentional fostering of curiosity, appreciation for beauty, and personal individuation which according to Carl Jung and other respected neuro researchers are all necessary components in mental wellbeing and spiritual maturation (Sarasso, et. al, 2016). The findings in my research show how modeling the connections between spiritual life, nature, and artist behaviors are a key for spiritual, mental, and environmental wellness.

### **A Need for a Model**

One might reasonably ask, "What are the practical steps to more effectively teach nature cultivation and connection?" Even my colleagues who teach with me at the environmental themed school are not confident in modeling or teaching students how to build a relationship with nature. I often hear statements such as, "Well, I agree we need to teach nature-connecting practices, but I was trained to teach Math. I don't have a lot of experience in teaching kids about nature-connection." As educators, we can only take students as far as the level of awareness and knowledge we already possess. One should consider that people are not disconnected due to uncaring about the environment, rather it has more to do with not knowing *how* to connect with it.

### **Other Perspectives: Political Ideologies as the Solution?**

It seems that environmental activists often jump to the conclusion that our society lacks pro-environmental motivation, thus we observe political ideologies which employ fear and guilt tactics in hopes of motivating people to collectively take responsibility. The most obvious example would be the apocalyptic environmental movement whose vision was most prominent in the 1960s and 70s. Even the

less severe emancipatory environmental movement approach which associates with the popular slogan, “Think globally, act locally” reflects this sentiment for calling both individuals and organizations to collective activism (Elliot, 2020).

### *Zizek's Controversial Perspective*

Slavoj Zizek is a Slovenian-born political philosopher, researcher, and internationally known cultural critic. He provides yet another perspective on a more “realistic” attitude towards the subject of nature conservation, saying:

Enter the perverse pleasure of premature martyrdom: “We offended Mother Nature, so we are getting what we deserve!” It’s deceptively reassuring to be ready to assume guilt for the threats to our environment. If we are guilty, then it all depends on us; we can save ourselves simply by changing our lives. We frantically and obsessively recycle old paper, buy organic food — whatever, just so we can be sure we are doing something, making our contribution. (2010, para. 6)

He goes on to say, “If nature is no longer a stable order on which we can rely, then our society should also change if we want to survive in a nature that is no longer the good caring mother, but a pale and indifferent one” (para. 13). In other words, we need to “get real with it” and guard ourselves from this human-provoked chaos of nature if we intend to survive. Zizek suggests that since weather patterns have recently become especially unpredictable and chaotic, we need to adjust our lifestyles accordingly. He explains, however, that we should simultaneously understand, “[we] are nothing but one of the living species on Earth, depending on the delicate balance of its elements.” He elaborates that humans, including their farmlands, gardens, sewer systems, factory buildings and landfills, are a part of a natural system as well.

Unethical capitalist market agendas and practices (which encourage exploitative behaviors towards the landscape, among other things) indicate that we see ourselves as separate from the rest of nature and, therefore, we tend to attempt to take on the responsibility of natural phenomena (ex: extreme weather). This is all done without deep consideration that human attempts to mediate the issues around



climate change and conservation are no match for the unpredictability and chaos of the natural physical world. Žižek says, “While science can help us, it can’t do the whole job. Instead of looking to science to stop our world from ending, we need to look at ourselves and learn to imagine and create a new world.” Žižek argues that societies must adjust to be more nomadic as a response to natural disasters and reject the agendas and forces behind what he believes to be the corrupt and exploitative nature of unethical capitalism (World Wide Fund for Nature Organization, 2020).

### **We are Nature**

Žižek points to the unhelpful narrative which advocates a guilt-based perspective towards conservation. He also argues that societies need to understand that we, humans, *are* nature, thus it is a delusion to think we are the ones really in control. Mark Sagoff is a professor of philosophy and Distinguished Senior Fellow of the Institute for Philosophy and Public Policy at George Mason University discusses how humans are *part* of nature as opposed to many narratives that emphasize the concept of “man versus nature.” He says,

Through science, humans learned about the laws and forces of nature and to apply them to satisfy their needs. But they also learned that they were part of nature because exactly the same laws and forces that applied to everything else applied in equal measure to them. (2015, para. 36)

He goes on to say, “...everything to which laws and forces of nature, such as gravitation, apply, so then human beings trivially are part of nature” (Sagoff, 2015, para. 37). Humans, like much of the rest of life on earth, are compelled by their *nature* to control and manipulate their environment for their own benefit in order to survive. Most living things do this in some way or another. Red squirrels, for instance, are known in Michigan for causing quite significant damage to trees (Russell, 2021). It would be a waste of energy to get personally angry with the squirrels. Instead, it may be better to have an attitude of “the red squirrel will behave as a red squirrel behaves” and work to pragmatically address the environmental problems created by them. This does not mean we should excuse the human tendency to over exploit natural resources. Instead, we must consider that this type of unethical capitalism, which is often blamed for the environmental crisis, is a symptom of a deeper problem that is spiritual in nature. For example, not

all societies exercise over exploitation of their natural resources or people. Many indigenous cultures are examples of this (World Wide Fund for Nature Organization, 2020). What is different between our nature-disconnected society and these other nature-connected cultures? It seems to be connected to spiritual health.

### **To be Spiritual is to be Human**

Research has indicated that spirituality and propensity for altruistic thinking are hard-wired into our brains (Ferguson, et al, 2021). According to the *Journal of Medical Ethics and History of Medicine*, “spiritual health” can be observed through measurable examination of effects on physical, mental, and social health; direct other aspects of health; be approached through a religious or/and existential perspective; be noted in one’s behavior; and be enhanced and improved upon. Experts determined that experiencing a connection to a higher power is the most important component of spiritual health (Ghaderi et al, 2018).

### **A Call to Healing our Souls and the Planet**

#### ***Spiritual Decay in the West***

Modern- day Americans have a spiritual problem which is reflected in many glaring imbalances and conflicts in our culture. Such examples include the displays of recent political conduct, the general lack of morale and faith in political leaders, the rising rates of failed committed relationships, the increasing mental illness diagnoses accompanied by boredom and dissatisfaction with day-to-day life despite us being the materially richest of all societies (Miller & Moore, 2000). Indeed, western societies have excelled in matters of world economics, and scientific and technological innovation, but have been less successful in matters regarding the heart and soul.

Richard Louv, author of *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, discussed how in medieval times, a person who would show indications of boredom, is an individual who was thought to be acting in something called *acedia*, which refers to a dire form of spiritual disintegration, in which there is a cheapening of nature and its divine quality. Despite technological advancements and societal shift to a secular, individualistic, and capitalist society, we still

face the same types of existential questions that humans have always faced throughout time (Miller & Moore, 2000).

It is in our nature to seek explanations to universal problems such as death, pain, loss, and lack of control (Berger & Lahad, 2013). Thomas Moore, an established teacher of spirituality has discussed how a balanced embrace of spirituality is key for a healthy thriving life. Moore observes:

In a society like our own...Ties to family, community, and tradition are already weakened by a pervasive climate of individualism. Appreciation of art and symbol and the sense of felt connection to nature in our own bodies are undermined by an overly abstract and intellectualized approach to life. The sense of transcendence, detachment, and flight from the everyday world...run the risk of reinforcing our cultural bias toward historical dislocation, social alienation, and lack of felt connection to ordinary life. (Miller & Moore, 2000, p. 35)

Despite concerns regarding the consequences involved with people being “spiritually out of touch” in our society, there is also risk of over-spiritualizing, which is, yet again, another form of dissociation. This causes one to lose touch with the intimate details of everyday life and our environments, thus creating a lack of presence in the moment (Neafsey, 1992). That is to say, there is risk for even the spiritual westerner to condense and repackage reality into a neat over simplification which can effectively remove personal investment or responsibility in addressing the issues of our current reality. For instance, throwing hands up in the air and leaving it all up to “God’s will.” In this case, we need to embrace our roles as active instruments for “God’s will” and strive for continuous awareness of our involvement and interconnection with nature, our place, and the overall human community. (Miller & Moore, 2000).

### ***Secularization of Education***

As an integral part of the whole, education has contributed to this spiritual problem as it has also been a fundamental element in secularization. It makes sense that consequently the violence, alienation, and lack of connection with nature that so many people in western society experience is all too common (Miller & Moore, 2000). In their book, *Education and the Soul: Toward a Spiritual Curriculum*, Miller and Moore state,

Many of our personal and societal problems stem from seeing the world in a fragmented and disconnected way. Building freeways, shopping malls, parking lots at a nonstop pace without consideration of the real need and impact on ecology is a product of the compartmentalized way of seeing and behaving. These things are threads of a whole cloth. The fact that we see them as disconnected events or fail to see them at all is, I believe, evidence of a considerable failure that we have yet to acknowledge as an educational failure. It is a failure to educate people to think broadly, to perceive systems and patterns and to live as whole persons. (2000, p. 95)

In other words, a fragmented approach to education is all too common in western education which leads to imbalances in student learning. The most common educational priority is to prepare children for a globally competitive economy. Rather than educate human beings, teachers are asked to focus on training future workers. Thomas Merton, a highly acclaimed theologian, mystic, poet, and social activist, once called this whole process, "the mass production of people literally unfit for anything except to take part in an elaborate and completely artificial charade." (Merton, 1959, p.154).

Modern science is often taught through a perspective that views nature as a machine which humans operate to serve their purposes and goals. The purely materialistic scientific outlook exercises reductionist methodologies, and accentuates human-nature dualism. Consequently this method further contributes to environmental degradation (Palmer, 1998). Today's children live in an overly vigilant, indoor-centric, culture which embraces the synthetic and artificial and are therefore, estranged from nature. Though our children may learn about the threats to our environment and endangered species in school, they are not experiencing it for themselves (Louv, 2013).

Children are more likely to be able to correctly identify ten different fast food logos before they could identify five trees that grow in their local environment. In *Last Child in the Woods: Saving our Children From Nature-Deficit Disorder*, Louv discusses how there is a lack of experiential time alone exploring and wandering the great outdoors for themselves. While the intentions of many parents are to insulate their children from an uncontrolled environment, this has resulted in children who are less imaginative, connected, and healthy than most of their predecessors (Louv, 2013).

### ***The Fragmented Environment***

Environmental scientists and the traditions of indigenous people, have commonly used the metaphor of “the web” to portray this interrelationship. If we can see humanity as included within the “web of life,” there is less chance that we will disrespect this web (Miller & Moore, 2000). Recent global conferences on the environment reflect a strong desire to put an end to the further undermining and contamination of the planet and the biosphere. Environmental awareness has made evident how everything is so deeply interconnected.

We can no longer live under the delusion that we can separate the economy from the environment. For centuries humans felt that they could do almost anything and no problems would result. Now we know that any changes we introduce into our lives will have some effect and that we must try to take these changes into account if we want to protect the soil, the air, and the water that support all life. (Miller & Moore, 2000, p. 6)

Most of us are familiar with human-made hazards such as the Pacific ocean garbage islands and other similarly serious threats of contamination to our soil and water (Erren et al., 2009). The generation of waste is increasing at an unprecedented rate with countless reports regarding these issues. In the *Journal of Epidemiology and Community Health* for example, Hong Yang reported “annual global waste arising from waste electrical and electronic equipment alone will have increased from 33.8 to 49.8 million tons between 2010 and 2018.” (Yang et al., 2018).

Every member in society inevitably has both directly and indirectly contributed to environmental contamination. Yet, the complexity inherently involved with being part of any societal system makes it impossible to be completely removed from participating in some kind of pollution. This awareness of interconnectedness encourages us to not just reflect on our actions but also our thoughts and inner life as well. Many experts in a wide range of fields see the foundation of our environmental problems as a result of inner poverty (Miller & Moore, 2000).

### ***The Internal is a Reflection of the External***

Moore and Miller have stated, "...if our beings are filled with greed, aversion and anger, then the world around us will reflect that inner state" (2000, p.6) Research by psychological scientists such as Mary Helen Immordino-Yang have found, "...constructive internal reflection is critical for learning from past experiences and appreciating their value for future choices, allowing us to understand and manage ourselves in the social world" (Association for Psychological Science [APS], 2012, np). There is a connection between our inner world and the problems that occupy our world. With some contemplation, one can observe that a lack of attention to our inward life tends to intensify the problems of the outer world. The following saying of the Buddhist tradition exemplifies this well:

The thought manifests as the word;  
The word manifests as the deed;  
The deed develops into habit;  
And habit hardens into character.  
So watch the thought and its ways with care,  
And let it spring from love,  
Born out of compassion for all human beings.  
As the shadow follows the body,  
As we think, so we become. (Source unknown)

Another theistic version of this concept is aligned with what Richard Rohr, an internationally acclaimed Franciscan teacher says, "You become the God you worship." Rohr elaborates further, discussing that if one's perspective is that God is judgmental and harsh, one will also become judgmental and harsh. If one's perspective is that God seeks loving relationships, then one will cultivate loving relationships (Center for Action and Contemplation [CAC], 2017). Where we put a significant amount of time and attention directly reflects how we navigate through life, our decisions, and what we choose to invest in. This concept applies to all our habits, and therefore is reflected in our priorities including how we do work and relationships. The state and qualities within our inner world in connection to the existential then, is critical to both our own personal well-being as well as the health of the planet.

## **Solutions to our Spiritual Sickness**

### ***Holistic Earth Education***

Miller states that the term "Earth education" as opposed to "environmental education" puts more of an emphasis on a sense of *place* instead of *environment*. "Our souls need a sense of place. We often experience soul in nature because the direct experience of the sun, trees, grass, flowers, and the Earth is so nourishing to our soul" (Miller & Moore, 2000, p. 93). One can feel and touch the Earth and with this sensory connection, both reverence and sensuality become part of the present experience. When one is sincerely present in nature, there is an accompanying sense of awe and reverence produced simply from observing its exquisiteness, while simultaneously acts such as studying the veins of tree leaves, tracing the lines left from waves on a shoreline, smelling the delicate scents of flowers, and feeling the grass under bare feet are sensuous experiences. Both the reverence and sensuality feed the soul (Miller & Moore, 2000, p. 93). Thomas Moore endorses the concept of "soul-ecology,"

...where we respect the soul in nature that is based on a "felt relationship."... the root meaning of ecology is seeing the Earth as "home." We are moved to take care of Earth as we would our own home when we feel a deep affection for it. (Miller, & Moore, 2000, p. 93)

If we prioritize the nourishment of the soul in our teaching, Earth education would naturally integrate throughout the whole curriculum. Education might well be defined as,

...knowing the story of the universe, of the planet Earth, of life systems, and of consciousness, all as a single story, and recognizing the human role in the story. The primary purpose of education should be to enable individual humans to fulfill their proper role in their larger pattern of meaning. (Miller, & Moore, 2000, p. 94)

Through the lens of Earth education, subjects and events are seen within broad patterns and relationships. Therefore, the educator can transcend the division of subjects in the curriculum. Learning about the story of the universe would harmonize the educational experience from the earliest grades through the highest level of training in specialized fields. The universal story is unique in its synthesis of both scientific knowledge and soul which applies for the individual and world. Through this

methodology, all the occupations and systems of our culture would be transformed and we would undoubtedly see steps towards health for our society and the planet (Miller, & Moore, 2000).

One of the main objectives for Earth education is helping learners develop Eco literacy. David Orr, Professor of Environmental Studies at Oberlin College, and founder of the Non-Profit Meadowcreek Project, approaches the topic of Environmental Literacy from a series of various angles, but in short Eco literacy is a systems-based thinking which broadens the principles of social and emotional intelligence to include the landscape. Orr defines "sustainability" as being a process which focuses on what is understood to be the terms and conditions of human survival. Therefore, since current economic practices are not sustainable, our environmental crisis cannot be solved by the same kind of education that helped to create these problems. Eco literacy must be radically included in our social narrative. Orr discusses the pervasive social problem of alienation from the natural environment which has reached an unprecedented level in recent human history. He believes our success in healing this division between man and nature will be the difference between extinction or survival of the human race (Orr, 1992).

**Seeing the Land as Your Community.** Many leading Experts in a range of fields have commented on the importance of fostering a nature connected life. As educators, we must build this idea into curriculum from an early age. Aldo Leopold, a renowned American philosopher, forester, conservationist, and environmentalist defined land stewardship as,

Caring for the ability of the land in a geographically situated place to support nominated species or communities of flora and/ or fauna to persist across the surrounding landscape, as a matter of personal responsibility, for future generations. (Mumaw, 2017, p. 93)

He describes how land stewardship principles should reflect a type of communal mindset. One must view stewardship as expanding personal communal boundaries to include soils, waters, plants, and animals, or collectively: the land. To Leopold, a land ethic demonstrates an ecological conscience, and therefore a call to individual responsibility for the health of the environment (Mumaw, 2017).

***Individual Benefits Gained from Conservation Practices.*** Motivations for land stewardship typically include purposes such as servicing external societal needs; personal relational values, such as



cares for particular natural spaces and species; and intrinsic personal values, such as living a meaningful life, personal wellness, or strengthening social connection (Mumaw, 2017). Acknowledgement of personal and social benefits has been shown to increase with the frequency and continuity of eco education and volunteering. Urban conservation volunteers have reported that the longer the duration of service, the stronger a personal interest develops in protecting local natural environments and a stronger attachment to their specific volunteer location (Mumaw, 2017).

In 1991 the Newburgh, NY Enlarged City School District launched a series of educational programs to encourage connection to nature in the Black Rock Forest (Murray, 1993). Murray's article describes the planning, facilitation, and student/parent reactions to programs designed to reignite the connection between learning and the environment. This quote from a participating parent shared their experience saying,

I grew up around Black Rock Forest... I thought that I knew the forest like the back of my hand. Seeing it through the eyes of my five--year--old daughter changed my mind. I now look at it with awe and wonder, and I can't wait to go back. I'm seeing it through the eyes of a child for the first time. (p. 54)

This reflection from a seventh grade Magnet Middle School student also echoes a transformative learning experience, "This experience was good because it was like a whole new different thing for me. I liked learning here. The reason why is because I never liked the forest before. Now, I don't want to leave" (Murray, 1993, p. 46).

### **Nature Therapy**

The research that examined nature therapy's effectiveness on different populations shows that creative application within nature can substantially support healing. The way participants relate to natural elements with the nuances that accompany an uncontrolled environment, can help foster meaning while developing flexibility and ability to connect to their imaginations and bodies (Berger, 2009). Gaining awareness of one's personal narrative and the natural-cosmic connection can greatly enhance a client's sense of acceptance and oneness with themselves and their environment (Berger, 2009). This therapeutic

process engages nature as an active partner in facilitating the stage, the story, and the process. Special attention is paid to environmental materials and life cycles as these can be included in therapeutic practices. Such practices include for example, coping with transitions and acceptance of uncontrollable aspects of life (Berger & Lahad, 2013).

According to Berger, nature therapy frameworks can help all ages, from children to older adults positively expanding on their outlook, connecting with strength, adding to their coping strategies, and shifting their attitudes towards a deeper sense of appreciation and acceptance in life (2009). This holistic concept is based on the belief in the strength of the human experience and aspires to empower one's ability, including elderly participants, to develop, evolve, and adapt. (Berger, 2009).

### ***The "Safe Place" Program***

The Safe Place project is a nature therapy based program facilitated by therapists, counselors, teachers, and parents as having benefited thousands of children to effectively reduce anxiety and build a sense of internal security that cultivates mental and emotional regeneration. It was developed three years after the end of the Second Lebanon War with the awareness that increasing numbers of children are exposed to continuous high-stress situations, which wear down their resilience and raise their risk of symptoms associated with post-trauma dysfunction. The program was created due to the urgent, lasting need for therapy that would not only, "...facilitate anxiety reduction, rehabilitation, and recovery from trauma, but would also try to prevent trauma. It was created from the knowledge that play, creativity, and connection with nature are intrinsically healing" (Berger & Lahad, 2013, p.15). The research behind this project was in response to the effects of the war. One of the side effects of the war was an increase in the negative influence on overall mental health and the natural environment. Research into the interconnected relationships between human beings and the natural environment theorize that the separation of human beings from nature strongly correlates to the deterioration of overall physical and mental wellness.

The developing field of eco-psychology ... offers a socio-psycho-ecological philosophy claiming that re-attachment to nature is necessary, not only for the physical preservation of the planet

(landscapes, cultures, natural habitats, animals, and plants), but also for the well-being and happiness of mankind. (Berger & Lahad, 2013, p.41)

According to Berger's eco-philosophy, separation from nature corresponds with our separation from each other and with a distancing from play and intuition. This detachment puts limitations on imagination, body, and emotional expression, which is linked to an increase in mental illnesses such as depression and fatigue, which are not contingent on just psychological and personality-based factors. Nature therapy framework inspired by the Safe Place program can help children cope with current anxiety resulting from major societal stresses all during a time in which the fate of the health and safety of our planet remains undetermined.

### *Models of Nature Therapy*

Research has shown that pro-environmental behavior is strongly correlated by the depth of emotional connection with the natural environment (Hinds & Sparks, 2008). The nature-connecting education models are derived from acclaimed nature therapy methods designed by Berger and Lahad. They describe their approach to nature therapy,

Based on the ancient Shamanic-ritualistic model, synthesized with modern and post-modern treatment models and approaches, nature therapy attempts to blend the ancient and the current; the personal and the collective; the linear and the cyclical. Thus, it creates a dynamic, creative, vital framework that seeks to connect, to ask questions, and to undergo processes of transformation, healing, and development. (p.41)

Berger's integrative models are rooted in existing creative therapeutic methods derived from observing children at spontaneous play in nature, and from clinical work with individuals and groups. In the work, he developed four models that span the developmental range of the individual-nature connection.

**“Challenge in Nature” Model.** This model is also known as “adventure therapy” which refers to applying nature as something that poses a challenge and an obstacle. Examples of this range anywhere from urban rock climbing to rafting on turbulent waterways where participants work through site-specific

formidable missions. Successfully completing the task-oriented challenges involve time sensitive problem-solving skills and teamwork, building trust, strong leadership and communication skills.

**“Home in Nature” Model.** This framework concerns creating a specific and personal “safe place” in nature. This process is derived from the fundamental human instinct to find or create a place where one feels secure and protected from uncertainty and chaos. Participants find a desired location, build, and then maintain a home-like sanctuary structure within a natural setting. The basic belief behind this model is that this industrious and creative process aids in participants creatively working through unique internal and external issues.

**“Conservation Therapy” Model.** In this approach, individuals practice the preservation and cultivation of the landscape. This concrete practice should metaphorically correspond to the narratives and psychological needs of the participants as a healing metaphor. For example, children with disabilities who have been adopted into foster families can aid in the recovery of wounded chicks that fell out of their nests. Through this role reversal, from being the vulnerable child to being the nurturer, children can learn to build trust and resilience through feelings of helplessness, separation from family, and a positive outlook on a possible future of independence.

**“Art in Nature” Model.** This model refers to the natural environment being an active medium in the therapeutic process (Berger & Lahad, 2013). This approach utilizes nature as the provider of creative materials and/or a stage for creative story-making. Stepping into an imaginative child-like mindset is necessary to this artistic nature connection. The therapist is able to transform psychological interpretations into exploratory experiences within creative mediums such as drama, story, movement, music, visual arts and crafts (Berger & Lahad, 2013). “Entering nature with a sensory, visual, and energetic basis separate from one’s daily environment, like the theatrical stage, can facilitate relatively safe practicing new [desirable] roles and lifestyles” (Berger, & Lahad, 2013, p. 52) In other words, it provides the stage for a participant to rewrite their personal narrative and self-author a more preferable future story. By linking one's personal account to the “powers that be,” one is empowered to accept past

challenging experiences, place them within a larger story, and allow for a constructive or even positive outlook on those experiences.

### **Embracing Imagination for Healing**

Imagination is a primary area of attention for the Art in Nature model. "Playing in imaginary reality creates an arena in which the child can risk exploring new ideas without fear of consequences in the real world; thus, he structures his knowledge of the world. We refer to this phenomenon as 'fantastic reality'" (Berger, & Lahad, 2013, p. 36). Fantastic Reality refers to a non-judgmental open space where anything is possible. In this artistic fabrication, the parameters of practical reality, such as time, place, and role lose their dominion. In the concrete reality of the human experience, events occur within a certain window of time, in a specific place, and involve individual(s) with a given role. This *limited reality* narrows the paths for creatively navigating through internal conflicts.

In Fantastic Reality it is possible to contract or expand time and simultaneously experience "the here and now" and "the there and then." (Berger & Lahad, 2013). Having strong imagination abilities ultimately gives power to the individual to more clearly envision possible futures, and be able to have a say-so in creating a more desirable reality moving forward. According to an article in Psychology Today:

Brain studies now reveal that thoughts produce the same mental instructions as actions. Mental imagery impacts many cognitive processes in the brain: motor control, attention, perception, planning, and memory. So the brain is getting trained for actual performance during visualization. It's been found that mental practices can enhance motivation, increase confidence and self-efficacy, improve motor performance, prime your brain for success, and increase states of flow—all relevant to achieving your best life! (2009, para. 5)

Berger and Lahad explain that resilience is defined as an assortment of abilities that regulate troublesome emotions and help an individual readjust to new life experiences and situations and is composed of six mediums including: "belief, affect, social, cognition, and physiology, and imagination" (Berger & Lahad, 2013, p. 29). Therefore, the role of internal visualization skills is a precondition for resilience. Findings from developing the Safe Place program framework have shown that traditional

schools actually tend to *reduce* resiliency skills compared to the Safe Place program (Berger, & Lahad, 2013).

### **Expressive Arts with Ecotherapy**

In the book *Nature-Based Expressive Arts Therapy*, Atkins & Snyder elaborate on the connection between expressive arts and ecotherapy, insisting that the field of expressive arts is based in arts practice (2018). Ecotherapy reinforces our human relationship with our planetary environment. Both disciplines are devoted to individual and collective well-being, promote the understanding of unifying art and life, echo the values of the other, and emphasize the evolution of ideas about what establishes the health and well-being of humans and the planet. here is a growing interest in the relationship between the two fields, which has been observed in several recent international conferences, such as the following: the 2007 conference of the International Expressive Arts Therapy Association entitled, *Expressive Arts and the Earth: Ancient Mountains, Whispering Waters, Sacred Stones*; *The Expressive Arts 26th International Spring Symposium*, held in April, 2014, entitled, *Expressive Arts Meets Ecotherapy*; and the 2016 *International Spring Symposium*, which was called *Walking in the Fields of Wonder* (Snyder & Atkins, 2018,). In the book, *Nature-Based Expressive Arts Therapy*, the authors use empirical evidence to argue that the arts are a primary source of potential for healing and change, for both the individual and our environment (Atkins & Snyder, 2018).

The authors present an eco-philosophy approach to expressive arts making, which entails an interdisciplinary approach that draws from fields such as the visual arts, drama, poetry, music, and movement in order to help subjects heal through artistic processes. It provides an overview of both expressive arts processes and ecotherapy, highlighting how they can enhance and cultivate each other, and enlightens the reader with the mindset and practices in expressive arts that are particularly suited to working with nature. The research-based evidence describes healing properties of eco-expressive arts therapy for both the individual and then, in turn, the health of our planet. This includes cultivating an aesthetic response to the earth, mindful and process-oriented thinking, and recognizing the pronounced interconnection between appreciation for beauty in nature and environmental sustainability.

A major underlying theme in expressive arts practices includes presence, which Snyder & Atkins describe in the following passage:

The concept of presence involves a quality invitational personal presence within a caring relationship and a way of being into the world. Presence requires attention, appreciative curiosity, multileveled awareness, trust and openness to the senses and to imagination... A process orientation in expressive arts is a basic attitude toward the creative process and thus towards life itself. (2018, p. 50)

### *Mindfulness*

The concept of presence is closely related to the therapeutic notion of mindfulness. Leading mindfulness expert Jon Kabat-Zinn defines it as, "...maintaining a moment-by-moment awareness of our thoughts, feelings, bodily sensations, and surrounding environment, through a gentle, nurturing lens" (Berkeley University of California, 2021, para. 1). There are many noteworthy studies that show how mindfulness-based interventions (MBI) provide substantial benefits to the wellbeing of children. In an overview of the literature on MBIs, Coholic showed that MBIs with children show a wide range of benefits, including stress reduction, developing inhibitory control and emotion regulation, lowering internalizing and externalizing behaviors, improving executive functioning, as well as improving optimism, social competence, self-concept, and emotional resilience. Learning mindfulness is also associated with academic competence and social skills (Coholic, 2016).

To further build on this point, another study revealed, "strong, consistent evidence for cognitive and emotional reactivity, moderate and consistent evidence for mindfulness, rumination, and worry" (Gu et. al, 2015, p.1). The reason that it is important to recognize the benefits of mindfulness for children is because the shifts in thinking about nature that were described above require one to be more mindful and present in their approach to nature. Because the two concepts—growing in mindfulness and thinking about one's relationship to nature in a more interconnected way—are so closely linked, it is impossible to separate one from the other. Thus, helping children to see themselves as an integrated part of nature.

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John Stuart Mill, a highly regarded English philosopher and naturalist, stated, "Nature in the abstract is the aggregate of the powers and properties of all things. Nature means the sum of all phenomena, together with the causes which produce them, including not only all that happens, but all that is capable of happen-ing..." (1874, p.5) In this context, human beings are not an exception to any other creature or object disrupting universal natural laws. Mill furthers his point, "The corn which men raise for food, grows and produces its grain by the same laws of vegetation by which the wild rose and the mountain strawberry bring forth their flowers and fruit" (1874, p.5). Every natural component in our universe follows a parallel order. "Art is as much Nature as anything else, and everything which is artificial is natural. Art has no independent powers of its own: Art is but the employment of the powers of Nature for an end" (Mill, 1874, p.7).

### **Educational Institutions**

There are a number of institutions that base their pedagogy on nurturing the soul using the solutions listed above. Waldorf schools in particular are internationally recognized as preparing especially well-rounded exceptional citizens. This is backed by a rigorous Stanford University study (Rogers, 2015).

#### ***Ojiya School***

Researcher Tezuka observed Ojiya School, a nature-themed school in Japan situated on a forested landscape with pastures and animals including goats, chickens, rabbits, and turtles. Tezuka reports that when young students are first becoming acquainted with the environment, they are often afraid of or "grossed out" by the animals. Many students reported that they did not like the chickens because they felt they were dirty and had a detestable odor. Gradually their attitudes began to shift over time with increased



interactions. Tezuka later reported, "Now the children run to the pens and buildings at cleaning time in the morning. They look forward to taking care of the rabbits. They even like to clean the hen house" (Tezuka et al., 1995, p. 5). The students have come "to sympathize with these creatures and sense their own kinship with them" (Tezuka et al., 1995, p. 6).

The person responsible for establishing the approach at Ojiya School is Giichiro Yamanouchi, a former principal. He felt that a surrounding forest could provide ample learning opportunities for children, foster their ability to take care of the natural environment around them, be useful for learning science, writing compositions, and other hands-on learning activities. He testified that the forest nurtures the children's souls and reflected on how some people believe that the forest is sacred, and when you go into it, you can be your true self.

Forests are natural meditation rooms where we can be alone and listen quietly to the forest. There is good, clean air which is good for our bodies. If we are troubled in body and or in our minds, we can go into the forest to meditate and to breathe deeply and we can become renewed and vigorous. (Tezuka et al., 1995, p. 56)

### ***Waldorf Schools***

The Waldorf school model has a focus on human spiritual development and research behind stages of learning and individuation while keeping what is age appropriate with natural life cycles in mind. The work of internationally renowned philosopher Rudolf Steiner is the cornerstone for Waldorf school pedagogy, a holistic approach to learning focusing on unity of spirit, soul, and body. Waldorf schools reflect this concept in their theme of heart, head, and hands.

The schools facilitate the fostering of young children's imaginations and creative skills, which act as the groundwork needed for learning formal academic subjects such as math, science, and reading. The Waldorf teacher facilitates learning, playing the role of performer as they create a learning environment that brings a sense of safety, spirituality and harmony to the classroom. The awareness interconnection within earth education is thoroughly embraced. Each child is taught with consideration of individual developmental phases, interests, strengths/weaknesses, and unique temperament (Mitchell, 2003).

**Evidence of Superior Education.** Stanford University conducted a multi-year, meticulous study of Waldorf education that resulted in a 139-page report published December, 2015. Stanford assessed Waldorf student achievement in standardized tests, student engagement (active participation, love of learning), and reports on problematic behavior (resulting in suspensions) in the Sacramento Unified School District. Over a five-year period, Stanford used rigorous statistical assessment of over 23,000 students from grades three to eight. Findings for Waldorf students include higher positive student achievement on standardized state assessments, higher levels of engagement and significantly lower disciplinary action and truancy overall. These results are accurate across the full range of student demographics including students of color, and socio-economically disadvantaged students. In addition, Waldorf students in general were reported to have less overall angst, and students reported that they felt more equipped for life (Rogers, 2015).

### **Chapter two: Children's Books - A Possible Tool for Bridging the Gap**

There is a strong need for quality nature and expressive arts therapy, and school models which support these soul-based practices in their curriculum. Unfortunately, these types of programs are not abundantly available, or for that matter, easily accessible to the average city-dwelling person. Children's literature serves as an alternative vehicle for making education accessible to young learners. It functions uniquely as a possible teaching tool outside of the in-person and hands-on elements that comprise classroom learning and outdoor therapy. If the content is engaging and meaningful to the young reader, it can plant a seed that introduces the ideas that begin to build personal values (Strouse et al., 2018). In particular, the purpose for my children's book is to model appreciation of the exquisite beauty of nature, and how to build a meaningful, artistic, and joyful relationship with it. In my observation and in my research, it is evident that there is a substantial lack of this type of literature available despite the nature-connection impoverishment in our society.

### **Historical Context of Children's Eco Literature**

The first noted integration of Nature Study principles, which informed twenty-first century children's literature and schooling, dates back to the early twentieth century. The Nature Study movement

is a pedagogical directive towards integrating environmental stewardship and activism in school and children's literature. Environmental connection efforts and conservation education were prevalent values until the mid- twentieth century when war, technological progression, and industry effectively transformed social narratives regarding environmental values.

Children's books made a shift to promoting themes such as industry, going as far as personifying machines, as seen in for example *The Little Engine That Could*. In the 1990s, the ideals of the first Nature Study movement reemerged in a call for meaningful conservation to sustain future generations. Like the original Nature Study, the New Nature Study arose from anxieties about rapid industrial development, habitat loss and extinction, and endangerment to childhood itself. The New Nature Study movement is still an active agent today and treats children as instruments for change and citizens being denied their full human rights while there are threats to soil, water, and lives (Reid et al., 2010). There has been an overall decline in children's eco literature since the middle of the twentieth century showing that, "Natural environments are disappearing from kids' picture books today as more are set inside homes and other built environments, a new study shows." (Hellmich, 2012, p. 1).

### **Common Approaches to Nature Inclusion in Children's Literature**

Of the children's literature that does include nature, there are three main approaches when it comes to nature inclusion. Little of it encourages children to think about nature in terms of mindfulness, deep connection, or artistic expression. In fact, these common approaches based on guilt, anthropomorphic tendencies, and nature domination may inadvertently further cause a disconnect from nature.

#### ***Guilt***

The shame or guilt-based relationship with environmental activism emphasizes humans as both polluters and custodians of nature, as opposed to developing an understanding of nature that views humans as part of the intricate web of nature (Op de Beeck, 2018). Some examples of the sorts of stories that encourage children to think about their connection to nature primarily in negative or guilt inducing ways include *The Lorax* by Dr. Suess, *The Window* by Jeannie Baker, *Tracking Trash* by Loree Griffin

Burns, and *The Berenstain Bear Scouts and the Coughing Catfish* (Op de Beeck, 2018). The emphasis of separateness from nature prevents readers from understanding what it means to have a deep nature connection.

### ***Tendency to Anthropomorphize***

This approach idealizes human characteristics, uses nature as a backdrop with the natural elements taking on human values and perspectives, and limits any implication of an interconnection within the holistic web, which involves both humans and environment. Readers are often presented with the idea of an idyllic and harmonious natural environment, in which each of its constituent parts occupy a stable and predictable place and behavior. The stage set in the story of Walt Disney's *Bambi* comes to mind. Humans are missing from the opening scenes, which suggests the inexistence of interaction between them and the environment. However, the natural elements encompass the feelings and behaviors typical to human behavior and a frame is created which emulates the type of relationships found in human societies (Ramos & Ramos, 2015).

### ***Nature Domination***

This is the type of relationship which reflects the lowest level of nature connection, since it embodies an anthropocentric and utilitarian perspective. In this perspective, everything which makes up the environment exists to serve human preferences. For example, there is a scene where playing cards are painting the roses red in *Alice in Wonderland*. In addition, it is common to find patterns of narratives regarding norms around humans controlling nature with little awareness that human action can interfere with or condition it. For example, gardens are commonly included as a secondary or even primary component within children's stories such as Beatrix Potter's *The Tale of Peter Rabbit*. In this case, nature is "perfected" by human labor while anything outside of the human toiled environment is a nuisance. There is an attempt to manipulate nature to more closely resemble artificial objects such as the common effort to make a lawn soft like carpet. In this way, the actions pertaining to the domination over nature are socially acceptable and justified. In that type of relationship, connection to the environment is not

developed as a meaningful and reciprocal interaction; rather it is a one-sided relationship with a linear flow. (Ramos & Ramos, 2015).

### **Ideologies of Children's Eco Literature**

Although environmentally-focused children's literature may bring awareness to certain environmental issues, it does not cultivate a deep connection with nature. Teach can sound coercive Throughout children's eco literature, there are three different ideological perspectives on the human-nature connection narratives as common threads. The first of these is the promotion of mastery over nature, in other words, the natural world exists for the benefit of humanity alone and must be subordinated to society's desires and needs. The second assumes an attitude of caring, wonder and understanding of the natural world, and/or at least an awareness of environmental issues. This approach is a step in the right direction, but it is still somewhat superficial as humans are usually positioned outside of nature and remain the source of value and meaning throughout the stories. The third perspective, reflecting the highest order of thinking, draws on a nature-associated position which has affinities with deep ecology. There is intrinsic value ascribed to all living beings, and human beings are not necessarily attributed with any kind of privileged status. Rather, humans understand that they are *part* of nature and therefore have this in mind as stewards.

### **My artwork: Using Illustrative Storytelling to Cultivate Connections with Nature**

When we were children, we were enthralled by the novelties of nature. For instance, it would not be unusual for a young child to eagerly point out the sticky patterned strangeness of a spider web, how the snow looks like glitter when the sun hits it just right, how the scales of pine cones follow a particular sequence, or how the lines left by carpenter ants appear as doodle drawings on dead wood. As we age, the landscape tends to become peripheral. All these once fascinating observations typically become a mundane background to our lives. My nature-based illustrations engage the viewer to revisit commonplace natural details which can become interesting once again. Figure 1 exemplifies an illustration of the previously jaded main character examining a leaf from an artistically renewed perspective.

**Figure 1**

*Rediscovering the Forgotten Beauty That is Within Plain Sight*



*Note.* Experiencing nature artistically takes a synthesis of observational skills, imagination and curiosity. This concept is parallel to how impressionist and post-impressionist artists would apply psychedelic-like techniques for painting commonplace nature. For example, Monet makes viewers re-experience the exquisiteness of the local lily pads and Van Gogh inspires viewers to have a renewed appreciation for the often-overlooked iris gardens as seen in Figure 2.

**Figure 2**

*Rediscovering the Common Garden*

Vincent van Gogh. (1853 - 1890). *Iris*es [Oil on canvas]. Getty Museum, Los Angeles, California.

<https://www.getty.edu/art/collection/objects/826/vincent-van-gogh-irises-dutch-1889/?dz=0.2961,0.2961,0.31>





*Note.* The common iris garden can be breathtaking if it's appreciated as an artistic experience.

My illustrations beckon the reader to similarly build those personal connections and see patterns each time they look and read the story. This is reinforced by poetry and the playful, improvised process that was employed to create each page and story line. My whimsical poetic writing and illustrations reflect the concepts of nature-based expressive arts in both process and product.

### ***Intentionality of Illustrations***

The book incorporates a synthesis of field observation with imagination. Some examples of this synthesis include: the stylization of actual plant species combined with imagined ones, the raw and somewhat savage interactions between creatures (such as a snake stalking a mouse), and small fictional additions (such as fairies and small animals playing instruments). A few of these examples can be observed below in figure 3.

**Figure 3**



Overall, the layouts of compositions are intentionally energetic, busy yet soothing. The scenes encourage the viewer to continuously revisit for something new or unique in the imagery of the artwork, whether it's hidden eyes in the bark of the trees, the layers of materials and colors, the play on patterns, or subtle art history references with background art in grandma's studio as seen in Figure 4.

**Figure 4**

*The Boy Enters Grandma's Studio*





*Note.* Hanging on the back wall are snippets from master paintings. An art appreciator with a trained eye would notice this after some examination.

Additionally, the illustrations cause the reader to recognize artistic forms that are found in nature. The Fibonacci sequence, which is found naturally in the anatomical structures of plants, animals, and earthen forms (Minarova, 2014), is used in the stylization, drawing attention to the artistic forms in natural objects such as spider webs, plant leaves, and snail shells throughout the story. Example shown in Figure 5.

**Figure 5**

*Detail of Storybook Illustration*





*Note.* Recurring Fibonacci spirals exemplified by ferns, spider web, and stylized shrubs in the background. Many more examples that can be discovered throughout the book.

A focus on quality use of images (as opposed to heavily relying on linguistics) can be highly effective for assisting the viewer in activating the meaning-making process and creating powerful narratives. This method can promote a more personally meaningful and symbolic approach to the natural environment. Building personal narratives in relationship to the scenery help to configure the environment as more than a glossed over space inhabited by living beings, which is the most elementary understanding of the environment. This method encourages the reader to develop the perspective that the environment is an active ecological arena involving the intercommunication between the landscape and the living beings it caters. A meaningful connection to nature is an essential aspect for developing eco-literacy (Ramos & Ramos, 2011).

Another positive aspect of the multitude of details is the encouragement for the viewer to push against linear, categorical ways of thinking. In my work, everything becomes connected or comes “full circle,” which encourages the reader to draw connections between different elements sprinkled throughout the story. The connections a viewer can make between symbolism, narrative components, and visual details throughout the story are endless. This effect causes the reader to practice thinking in rhizomatic ways, bringing different ideas together and making meaningful connections in whatever ways they are able (Deleuze & Guattari, 1987). By drawing children's attention to these forms and patterns, my book encourages them to recognize the artistic, self-organizing nature of all matter and to recognize the natural (i.e. inseparable from nature) origins of their own desires and creative energies.

### **The Joyful Process**

In making these illustrations, I have intentionally worked on all the pages in phases and in layers. Many aesthetic decisions are determined by availability of materials provided in the moment and although there may be a certain intention for each page, the process also leaves plenty of room for surprise and “happy accidents.” This creates a sense of openness, adventure, and improvisation in my construction process that is also combined with some degree of intentionality. This is all to reflect a balance of chaos and order that is responsible for the artistic forms that appear in the rest of nature. The natural world (including humanity) is subordinate to natural laws which include having an instinct to thrive and multiply. In order to do so, life must constantly adjust its responses to the complex web of nature's ever-changing systems and processes. For example, it is a given that a sunflower will always strive to thrive and reproduce, but spontaneity is reflected in how it will adjust the direction it faces depending on the many variables of its environment. Thus, creativity in nature is a balance between both spontaneous process and intentional ordering, and my work attempts to reflect this balance.

Additionally, my process incorporates a mindset of gratitude for the materials with which make it possible to create with. We cannot make art without the materials provided for us by the plants, minerals, and geological forms of our planet. The artworks encompass a sense of “rawness” and truth of material

construction, for example, using unrefined collaged materials such as noticeable natural fragments in the collaged handmade papers and raw wood veneer in other areas as shown in Figure 6.

**Figure 6**

*Detail of Storybook Illustration*



*Note.* This detail can be located on page 1 of my storybook. The base material of the river are layers of handmade paper. The fence and bird houses are made of a raw wood veneer.

All of these efforts reflect the sentiment of Buddhist monk and poet Thich Nhat Hanh:

If you are a poet, you will see clearly that there is a cloud floating in this sheet of paper. Without a cloud, there will be no rain; without rain, the trees cannot grow; and without trees, we cannot make paper. The cloud is essential for the paper to exist.

Thus, the inclusion of these elements also reinforces the theme of the interconnectedness of all materials and beings.

### **Conclusion**

The medicine for our society and planet includes mindfulness practices rooted in expressive art behaviors which are in tandem with developing intimacy with our natural environment (not just viewing it as something to be scientifically classified, materialistically commodified, or anthropocentrically stewarded). This is non-secular in nature and it directly correlates with our individual mental and spiritual

health. By communing with our earth, understanding we as humans are an extension of it, and therefore loving it, we can hope that it is possible to preserve the beauty of this land and to pass on our love for it to future generations. As Alice Walker so wisely said about humanity, "Anything we love can be saved" (2005).

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## Appendix

### **Fibonacci in Everyday Life Lesson**

Megan LaZare

*Adapted from a lesson created by Donna St. John*

Grades 9-12



Allotted time: Approximately 12 fifty-eight-minute class periods

### Outcome Statement

Students will be challenged to design and create a personal artwork that reflects a visual representation of the Fibonacci sequence inspired by their everyday lives. The Fibonacci sequence, also known as “the golden ratio,” is consistently celebrated particularly in the fields of natural science, mathematics, and the arts. The Fibonacci sequence is consistently observed in growth patterns in nature, is considered to be one of the sacred mathematical blueprints, and is a universally pleasing aesthetic design. Students will be challenged to creatively integrate unique personal observations and/or experiences with the universally present Fibonacci sequence, which is ultimately a unifying practice for the student community and the natural world.

### Objectives

Students will...

1. consider their unique observations and human experiences and will intentionally apply those to the universally reoccurring Fibonacci sequence.
2. create multiple ideas for visual solutions which combine a variety of everyday experiences with the Fibonacci sequence and then refine their ideas to achieve a desired outcome.
3. create an art piece that is well-designed, as it accurately follows the universally pleasing aesthetic principles of the Fibonacci sequence.
4. understand what the Fibonacci sequence is and how it integrates the fields of natural science, mathematics, and visual art.
5. make connections between their own artworks and those of their peers within the classroom community.

## Criteria

### The project will...

1. exhibit properly. This includes:
  - applied artistic medias on a 2-D surface (9"x 12" up to roughly 14" x 18")
  - having minimal extra white space, unintentional-looking marks, folds, and tears
  - artwork has clean edges, complex color layering, and/or subtlety in value application with lines and coloring done slowly.
  - Colors, shapes, and lines are solid.
2. minimally share the same visual characteristics as peer's work, or teacher's examples.
3. incorporate Fibonacci ratio, spiral, geometry, or proportion in design
4. exhibit student understanding of terms including *fibonacci*, *mixed media*, and *mark marking* through visual product, class discussions, or in written form.

## Visual Art Standards

**ART.VA.II.HS.1 Identify and define problems, and reflect upon possible visual solutions. (21st**

**Century Skills: I.2, I.3, I.4)**

**ART.VA.II.HS.2** Create artwork using materials and techniques with skill so that personal intentions are carried out. (21st Century Skills: I.1, 1.2, II.7, III.3)

**ART.VA.II.HS.4** Apply knowledge and skill to symbolize the essence of an idea. (21st Century Skills: I.1, I.6)

**ART.VA.II.HS.5** Reflect upon, articulate, and edit the development of artwork throughout the creative process. (21st Century Skills: I.4, II.7, III.3, III.4)

**ART.VA.III.HS.5** Recognize and understand the relationships between personal experiences and the development of artwork. (21st Century Skills: I.3)

## Integrated Standards

**MS-ETS1-2** Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

**Michigan Math Standard: Ratios and Proportional Relationships 6.rP** Understand ratio concepts and use ratio reasoning to solve problems.

## Universal Design for Learning and Presentation Diversification

### Multi-Sensory Consideration

- PowerPoint (visual)

- Song at the end of presentation modeling chords and melodies inspired by Fibonacci sequence (sound)
- Utilizing artistic media in artmaking process (touch)
- Romanesco samples available (taste)

### **Mind Style/Presentation Consideration –**

Concrete sequential: Linearly formatted PowerPoint presentation, step-by-step instruction for brainstorming process, making lists to start from for brainstorming ideas, fibonacci sequence as a mathematical anchor for the project, rubric outlining criteria included.

Novelty/ambiguity: Freedom to make an abstract piece, choice in ideas that could be suitable to meet criteria, choice in artistic media.

### **Anticipatory Set**

Greet students as they enter the room. They see a large photo of an unusual looking green cauliflower-like vegetable with spiral cone patterns. Generate a discussion. Ask them if they've ever seen this before, and if they have, what is it called? (Romanesco - chartreuse colored flower bud vegetable, and has a form naturally approximating a fractal. When compared to a traditional cauliflower, it has a firmer texture and delicate, nutty flavor). Have small samples to try if anyone is interested. What does it taste like? What makes this strange vegetable look so different than a regular cauliflower? Would you ever think to buy and cook with it if you came across it?

### **Materials/Tools**

- Matboard
- Shape templates and rulers
- Chromebooks
- Watercolor paper
- Acrylic paint
- Watercolor paints
- Drawing pencils
- Fabric
- String
- Scissors
- Drawing paper
- Watercolor paper
- Micron and Sharpie pens
- Paint pens
- Spray paint
- Glue
- Glue guns

- Rubber cement
- Canvas

### Resources

- 1) Google Slides (PowerPoint) presentation
- 2) Swirl by Swirl Spirals in Nature by Joyce Sideman (children's book)
- 3) YouTube video with song Firth of Fifth by Genesis:

<https://www.youtube.com/watch?v=SD5engyVXe0&t=1s>

### Concepts and Vocabulary

Fibonacci sequence- a series of numbers in which each number (*Fibonacci number*) is the sum of the two preceding numbers. The simplest is the series 1, 1, 2, 3, 5, 8, etc.

Golden ratio- a special number approximately equal to 1.618 that appears many times in mathematics, geometry, art, architecture and other areas.

Golden proportions- visual representations of compositions utilizing the golden ratio

Mark making- the creation of different patterns, lines, textures and shapes using various artistic mediums, tools, and techniques

Mixed media- The use of applying a variety of artistic mediums in an art piece

### Procedures

**Day One** Anticipatory set (Slide 1) and proceed to introduce the Fibonacci sequence and golden ratio (slides 2 and 3). On the bottom of slide 2, there is a section for students to tell me the numbers that proceed from the last. Write out those numbers in sequence and make corrections as they figure them out. Ask for a student volunteer to get out their phone and pull up the calculator. Ask them to take a Fibonacci number and divide it by the number preceding it. What is the answer? Try the same method with other Fibonacci numbers. The answer should always come close to 1.6. What's the pattern? This is called the "golden ratio."

Show examples for how this ratio is illustrated as a spiral and is a recurring blueprint in nature and can even be observed in human anatomy (slides 4-8).

Show examples for how artists and designers have used this secret formula in anything from portraiture, architecture, landscape composition, photography, and surrealism, among others (slides 8-13).

Show some examples of abstract geometric designs which utilize the Fibonacci sequence (slides 14-17). Discuss the golden ratio with visuals (slide 18).

Next, provide prompts for students to brainstorm what areas in their lives they would possibly explore artistically in conjunction with the Fibonacci sequence. Provide approximately five minutes for students to ponder the prompt and ask questions. Tell them they will need to share their ideas with me once they have responded to the list of prompts. They will have until the next class period to fill out their ideas (slides 19 and 20).



Show some more examples of different artworks that follow this theme (slide 21 and 22). Provide the remaining time in class for students to brainstorm. Play the YouTube video by Genesis which uses melodies inspired by the Fibonacci sequence as students are working.

**Day Two** Optional activity to check for understanding: If the weather is cooperative, have students get into groups of 3-5 and challenge them to make an impermanent “earth art” installation demonstrating unique ways to show the Fibonacci spiral. Encourage intentionality of various colors, shapes, and textures of found natural objects. Time the students for 30 minutes and then visit each installation and discuss the qualities of their process and product. I was able to facilitate this activity with students as young 6th grade.



**Day 2 Cont.:** Review concepts and criteria. Show teacher example of sunflower painting. Discuss how sunflowers grow at the house I grew up in (therefore, there is personal meaning). Ask students if they can spot the ways the Fibonacci sequence is integrated in the art work (geometry in the center of the flower, spirals in the clouds, 34 petals—a Fibonacci number). Remind the students of the children's book resource *Swirl by Swirl: Spirals in Nature* by Joyce Sideman as an additional support for generating ideas. Check for understanding. Briefly go over the self-assessment rubric and make it available. Students will continue to brainstorm their ideas. Meet with individual students as they finalize their ideas. Provide corrective feedback for errors and reinforce correct practice. Students begin to roughly plan out their project by lightly sketching and sharing. Upon approval of their plan, provide necessary materials for chosen artistic media.

**Day 3 -12** Students begin to work on their projects (with the exception of “sketchbook Fridays”). Circulate, and monitor student practice. Provide constructive feedback. Involve other students in the feedback loop, if appropriate, to promote a positive sense of community and investment in each student’s success. Ask students to review the posted rubric if they are unsure if they are done with their work. Upon completion, students will self-assess using the provided rubric. Remind students that self-assessment gives direct feedback on possible areas for improvement before turning in final work and additionally



gives more ownership over their grade. Students may work on sketchbook pages if they have extra time (independent artworks due at the end of the semester for exams).

### **Closure**

- How would you explain to a friend outside of the classroom what the Fibonacci sequence is? What are some examples in nature?
- What are some examples where artists and designers use the Fibonacci sequence/golden ratio/golden proportions?
- What other subject areas value the Fibonacci sequence?
- What are some examples of different mark making?
- Give me an example of an artwork that is mixed media?

### **Accommodations**

Students who are EI, have ADD, or high functioning autism sit near the teacher's desk, at their own table, with a supportive/productive peer, or near the front of the room if possible. These students will also need periodic breaks from work as needed, instructional chunking, and more frequent check-ins/redirection.

Advanced students may have the option to combine abstraction with observation as a challenge, create a larger artwork on canvas, use more sophisticated/high quality materials/artistic processes (ex: linocut printmaking), or choose to make a sculpture instead of a 2D piece.

## Student Self-Assessment

### Fibonacci in Everyday Life

(40 - 50 pts total) Check the boxes that apply to your project.

10 points for each category	<b>Room for Improvement</b> E,D,C-,C,C+ (0-7.5 points)	<b>Basic Expectations</b> B- B B+ (8 points)	<b>Exceeds Expectations</b> A- A A+ (9-10 points)
<b>Craftsmanship</b>	<ul style="list-style-type: none"> <li>Lines and coloring appear <u>rushed in many areas</u>.</li> <li><u>White from the paper stands out</u> within colored shapes and drawing.</li> <li>Colors are NOT <u>mixed/layered</u></li> <li><u>Multiple unfinished blank space</u> shown in design.</li> <li>Correct value application is <u>minimal</u></li> <li>Edges are <u>often frayed/jagged/unfinished</u></li> </ul>	<ul style="list-style-type: none"> <li>Lines and coloring appear rushed in <u>a few areas</u>.</li> <li>Colors, shapes, and lines are <u>usually solid</u>.</li> <li>Colors are <u>usually mixed/layered</u></li> <li><u>Some unfinished blank space</u> in design.</li> <li>Value is <u>usually applied</u> correctly with intention</li> <li>Edges are <u>usually clean</u></li> </ul>	<ul style="list-style-type: none"> <li>Lines and coloring are <u>all</u> done slowly.</li> <li>Colors, shapes, and lines are <u>all</u> solid.</li> <li>Colors are <u>complex exhibiting highly skilled color mixing/layering</u></li> <li><u>No extra blank space</u> in design.</li> <li>Value is <u>correctly applied exhibiting careful subtlety</u></li> <li>Edges are <u>completely clean</u></li> </ul>
<b>Inclusion of Fibonacci sequence/ ratio/ proportions</b>	<ul style="list-style-type: none"> <li>Fibonacci sequence is <u>lacking</u> or is <u>not incorporated</u> in design. No clear explanation/reasoning is provided by the student.</li> </ul>	<ul style="list-style-type: none"> <li>Fibonacci sequence <u>is clearly incorporated</u> in design at least once.</li> </ul>	<ul style="list-style-type: none"> <li>Fibonacci sequence <u>is</u> incorporated in design in <u>multiple or unconventional ways</u>.</li> </ul>
<b>Creativity</b>	<ul style="list-style-type: none"> <li>Student artwork <u>shares many</u> of the same characteristics as peers, or teacher's examples.</li> </ul>	<ul style="list-style-type: none"> <li>Student artwork <u>shares a few</u> of the same characteristics as peers, or teacher's examples.</li> </ul>	<ul style="list-style-type: none"> <li>Student artwork <u>minimally or does not</u> share the same characteristics as peers, or teacher's examples.</li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>Student <u>often incompletely and/or incorrectly</u> uses terms including <i>Fibonacci</i>, <i>mixed media</i>, and <i>mark marking</i> in class discussions and/or in written form</li> </ul>	<ul style="list-style-type: none"> <li>Student <u>occasionally incorrectly</u> uses terms including <i>Fibonacci</i>, <i>mixed media</i>, and <i>mark marking</i> in class discussions and/or in written form</li> </ul>	<ul style="list-style-type: none"> <li>Student <u>usually/always correctly</u> uses terms including <i>Fibonacci</i>, <i>mixed media</i>, and <i>mark marking</i> in class discussions and/or in written form</li> </ul>
<b>Conduct (optional)</b>	<ul style="list-style-type: none"> <li>Student <u>repeatedly needs to be reminded</u> about following clearly stated procedures.</li> <li>Student <u>lacks participation</u> in class critique, or often contributes negative feedback/discourages others.</li> <li>Student has <u>difficulty staying on task</u> and <u>rarely meets</u> the project goals.</li> </ul>	<ul style="list-style-type: none"> <li>Student follows procedures but <u>occasionally needs a reminder</u>.</li> <li>Student <u>positively participated once or twice</u> in class critique</li> <li>Student <u>generally stays on task</u> and <u>often meets</u> the project goals.</li> </ul>	<ul style="list-style-type: none"> <li>Student follows procedures <u>without reminder</u>.</li> <li>Student <u>actively and positively participated</u> in class critique</li> <li>Student <u>stays on task</u> and <u>meets</u> the project goals.</li> </ul>

Student Self-Assessment Grade \_\_\_\_\_

Final Grade (from teacher) \_\_\_\_\_

