

Exploring the limits of knowing and discovering Reverence: The fundamental shift from STEAM to CREATIVE Learning

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Abstract

This article explores a transformative shift in science education from the traditional STEAM model to a CREATIVE framework, emphasizing Calculation, Reverence, Environment, Art, Technology, Innovation, Values, and Engineering. The authors utilize personal narratives underpinned by theory to operationalize Reverence as an elemental relational virtue fostering ecological consciousness. Through concepts like friluftsliv and environmental relationality, they advocate for nurturing awe, responsibility, and a sacred connection to land and sea. The CREATIVE model aims to inspire educational practices that honour interdependence, challenge anthropocentrism, and cultivate a reverent, sustainable way of being in and with the world.

Résumé

Cet article s'intéresse à une transformation en sciences de l'éducation en proposant une transition du modèle STEAM (sciences, technologies, ingénierie [engineering], arts et mathématiques) vers le modèle CREATIVE (calcul, révérence, environnement, arts, technologies, innovation, valeurs et ingénierie [engineering]). L'auteur et les autrices se servent de récits personnels appuyés par la théorie pour opérationnaliser la révérence en tant que vertu relationnelle élémentaire qui favorise la conscience écologique. Mobilisant des concepts tels que le friluftsliv et la relationnalité écologique, il et elles plaident en faveur de l'émerveillement, de la responsabilité et d'un lien sacré à la terre et à l'eau. Le modèle CREATIVE vise à inspirer des pratiques pédagogiques qui honorent l'interdépendance des formes de vie, remettent en question l'anthropocentrisme et cultivent une façon d'être au monde qui soit durable et respectueuse.

Key Words: Transformative Education, Reverence, Relationality, Interdependence, Experiential Education

We live in an era of ecological emergency that is the inevitable consequence of humanity's alienation from the Earth and Sea. An axiological shift that challenges our existing and collective relationship to the environment can help facilitate a movement towards ecological Reverence¹. In this paper, Shane, Robyn, and Megan theorize, conceptualize, and operationalize Reverence as an essential element in science education. It is our intention through this writing to shift the narrative in science education from **Science**, **Technology**, **Engineering**,

Art and **Math** (STEAM) to **CREATIVE**, a framework of science teaching and learning that includes all the elements of STEAM but also opens up a space for **Reverence**, **Innovation**, and the **Environment Calculation** (as a combination of **Math** and **Science** from the STEAM model), **Reverence**, **Environment**, **Art**, **Technology**, **Innovation**, **Values**, and **Engineering**). For the purposes of this article, we will limit our discussion to **Reverence** with self-evident connections to the **Environment** as there is already significant literature outlining connections to STEAM (Burnard & Colucci-Gray, 2019; Barkatsas et al., 2019; Bertrand & Namukasa, 2023), **Innovation** through play-based Learning (Dillon, 2018; Sahlberg & Doyle, 2019; Edwards, 2017), and **Values** in Education (Apple, 2004) and **Engineering** (Florman, 1996) as examples of the ubiquity of values in all our lived experiences.

With sincere gratitude, we acknowledge the narratives of seminal works such as, to name but a very few, Leopold's *Sand County Almanac* (2001), Lopez's *Arctic Dreams* (2002), and Moitessier's (1996) *The Long Way*, in guiding our thinking on phenomenological narrative inquiry on Reverence which forms the framework for this article. While an articulation of Reverence is outlined in the subsequent section, just as Leopold, Abbey, and Moitessier articulate their unique contexts and experiences of Reverence, so too do the contributing authors to this article. And in so doing, it is our profound hope that each reader explores within their own contexts and experiences an opportunity to reflect on Reverence. Carson & Pratt (1966) in her book, *The Sense of Wonder*, expresses the sincere belief that "it is not half so important to know as to feel" (p. 56). It is this feeling, this resonance, this reciprocity, this relationship that we have, for the purposes of this article and the CREATIVE framework, articulated as Reverence.

An Environmental Foundation for Reverence

My name is Shane Theunissen, and I have an incredible privilege that has allowed me the resources and time to complete a voyage of over ten thousand nautical miles of ocean sailing in the past year. My main motivation, in planning this trip was to introduce my sixteen-year-old son and fourteen-year-old daughter to the wonders of the ocean. Through the course of two trans-Atlantic crossings, we saw severe gale force winds and twenty-foot waves, windless days with glassy calm seas, and we saw dolphins, flying fish, whales, swordfish, and bioluminescence. We altered courses to go around active underwater volcanoes and witnessed countless stars and shooting stars—all this, and more, while sailing along at an average speed of about 4.5 knots (8.334 km/h), a speed that invites contemplation. The world as seen from the perspective facilitated by a slow-moving sailboat is psychologically and culturally inconsistent with the perspective (Swart, 2010) that confronts the average passenger on a commercial airplane travelling up to a hundred times faster and isolated from the elements in a climate and pressure-controlled cabin thirty-thousand feet or nine km above sea level.

Jules Verne articulated the essence of this cognitive, psychological, and cultural adjustment in his book, *Around the World in 80 Days*, which was originally published in 1872. The following excerpt highlights the conversation that catalyzed the protagonist, Phileas Fogg's, travels and also articulates a poignant insight into the evolution of our understanding of Earth:

"... The world is big enough."

"It was once," said Phileas Fogg, in a low tone. . . .

"What do you mean by 'once'? Has the world grown smaller?"

"Certainly," returned Ralph. "I agree with Mr. Fogg. The world has grown smaller, since a man can now go round it ten times more quickly than a hundred years ago."

(Verne, 1872 p. 17)

My daughter, after eighteen days at Sea travelling from Cape Verde to Barbados, was aware of this evolving dissonance when she remarked "you don't know how big the Sea is until you sail across it." Turnbull (2006) conceptualizes these utterances as the effects of Copernicus on modern society's relationship with the earth. He explains that flight, space travel, and finally satellite imagery are the most recent manifestations in the logical progression of the Copernican revolution. He succinctly states, "As the earth is transformed into a cosmological representation, the earth loses its ontological status as a site of dwelling and is reduced to an object of possible knowledge for modernity's technological subject," (p. 131) suggesting that:

only a world supported by the earth can give things their proper measure; and without this relation, things have no true measure (and in such a case, the measurement of the world in terms of an abstract mathematicised facticity—required for the efficient maintenance of purely technological relationships—becomes the anthropocentric measure of all things). (Turnbull, 2006, pp. 131-132).

Packer (2011) recognizes the environmental implications of the evolving perception and representation of Earth and suggests that "it is precisely our current moral paradigm—our attitude toward the planet, our attitude toward other cultures—that needs to be changed" (p. 38) if we hope to realize an alternative ecological trajectory.

This reclamation of relations with Earth coalesces with Wilson's (2008) articulation of relations with the land and the cosmos when he states, "the distance between ourselves and the environment is sacred, and so you do ceremonies to bridge that space or that distance . . . experiences on the land shape everything" (pp. 87-88).

With respect to being transparent, it was not until the very moment of reflecting on this last paragraph in preparation to continue writing, that I internalised the word *sacred*. My plan, as readers can tell from my introductory paragraph (which I will leave unchanged as evidence of the evolution of my thinking) was to discuss *wonder* as a catalyst to building relations to the Sea.

Now, almost intuitively, I feel that wonder, as a concept, lacks the gravity one might link with the sacred, and wonder consequently feels incongruent. And so, after some reflection, I articulate the emotion that is manifest in the distance between ourselves and the environment as Reverence.

Reverence, as it turns out, is problematic to define. To this point, Kovak (2013) writes:

Like all other virtues, reverence cannot be defined precisely, because virtues are in the tense middle. For example, courage is a middle ground between fearlessness and timidity. In Greek culture, reverence was the virtue opposite to hubris, the tragic flaw of tyrants like Oedipus who tried to act like gods (p. 749).

Woodruff (1997) was cognizant of this and through his seminal work “*Reverence: Renewing a Forgotten Virtue*” introduces the definition of Reverence as a schema, a framework to be augmented by our own experience with an understanding that this process “is a project not for a book but a lifetime” (p. 13). He goes on to suggest that in addition to Reverence being “a virtue that keeps human beings from trying to act like gods” (p. 4), it is also “a cardinal virtue” (p. 7) that “begins in a deep understanding of human limitations; [and] from this grows the capacity to be in awe of whatever we believe lies outside our control” (p. 3). Notably, Woodruff, through his study of ancient Greek and Chinese cultures found examples that illustrated that “[b]oth peoples cared deeply and thought long about the meaning of ceremonies in the texture of their religious and political lives, and in this meaning, they saw the deeper value of reverence” (p. 7). Consequently, in Reverence, we see a connection to Wilson’s (2008) ceremonies as a means of enacting the meaning of sacred. Ceremony as the manifestation of the meaning of sacred lends credibility to Solomon’s (2002) assertion that:

Reverence requires an active role, an engagement, not merely the experience of awe. In human affairs, reverence means taking a stand, in active and full participation. Reverence means taking responsibility, recognizing and accepting one’s limitations, but not shirking from responsibility. . . . To be awe-struck is to be paralyzed. To be reverent is to be moved to action. (pp. 40-41)

Woodruff (1997) is quick to remind us that:

Reverence must stand in awe of something . . . Something that reminds us of human limitations . . . Something that satisfies at least one of the following conditions:

1. it cannot be changed or controlled by human means
2. is not fully understood by human experts
3. was not created by human beings
4. and is transcendent. (p. 117)

One example of Reverence, which in many Western contexts emerges as ceremonial acknowledgement of unceded ancestral territory, is inadequately

understood. Rocha (as cited in Pinar, 2023) challenges us to consider that “the reality of ‘unceded ancestral territory’ can be understood in more than one way,” first as “a political statement of non-surrender,” but also “as a spiritual statement of non-surrender.” He explains:

We are not gathered on soulless, inanimate ground; there is no modern scientific sovereignty over the metaphysical reality of this place. Unceded, ancestral territory, in this sense of spiritual resistance, is another way to say that the land is always-already sacred and it will never be surrendered to a worldview where nothing is sacred. The demand is not for tolerance or respect; sacred land demands *reverence*. (Rocha as cited in Pinar 2023)

While Rocha’s articulation of unceded ancestral territory is associated with land, we feel that this “spiritual statement of non-surrender” (p. 144) is also appropriate in articulating our relations to the Sea. Further to this, we posit that there can be no differentiation of the Sea, for each drop coalesces in the whole, and consequently the entirety of the Sea is sacred. With this understanding in mind, we would revise Rocha’s last line from “sacred land demands Reverence” (p. 144) to the Land commands Reverence because, in our understanding, all Land is sacred, and a demand, involves the possibility of non-acquiescence, while a command is non-negotiable. We only need to look at many of the commands the climate change invokes on our fragile human structures to embody this understanding. Woodruff (1997), appears cognizant of the causal relationship between thought and action when he articulates the emotive, spiritual, and intellectual shortcomings that plague contemporary humans; he states, “To forget that you are only human, to think you can act like a god—this is the opposite of reverence (p. 4). A Reverence of the land and sea as sacred is essential for “Ancestral Land acknowledgements” (Rocha, 2020 p. 144) to have meaning in the context of Western ceremony. This is also true if we regard, due to a lack of Reverence, the earth as “an object of possible knowledge for modernity’s technological subject” (p. 131) and not the foundation of life for all living things. So, while science may allow us to wield enormous power, we are beholden to remember that “[p]ower without reverence is aflame with arrogance” (Woodruff, 1997, p. 4).

And so, the incorporation of Reverence into science programming is essential because we need to be aware that: “The Earth isn’t just something all around me; it’s a part of me” (Rocha, 2020 p. 144). Macy and Brown articulate:

*We have forgotten who we are
We have alienated ourselves from the unfolding of the Cosmos
We have become estranged from the movements of the Earth
We have turned our backs on the cycles of life
We have forgotten who we are. (1991 p. 153)*

And we are, or might aspire to become, *homo reverens* or as the Maya Tsel'tal say "ch'ul jkanan "steward[s] of the sacred" or Kanan k'inalat "protector[s] of Mother Earth" (Celidwen & Keltner, 2023, p. 2). But in order to come to these spaces of Reverence, a very specific emphasis on the relational dynamic between humans and the environment needs to be explored.

In the following sections, Robyn explores these relational elements through concepts of *friluftsliv* and interdependent relations while Megan explores reverential relationships through her experiences in tall ship voyaging and provides some concrete examples of exploring environmental relationality as a pathway to Reverence through the lesson plans she provides at the conclusion of this article.

Reverence as Being in Relation with the Environment

My name is Robyn Ashley, and my family's value of the natural environment as a resource, a respected and living entity, and as a fundamental setting for life from childhood to old age, has significantly impacted the way I understand how humans are constantly in a reciprocal connection with nature. Throughout my studies and early teaching experiences, I became aware and struggled emotively and cognitively, as Shane does, with the artificial divide constructed between children and nature. This separation, that Shane discussed as a Copernican consequence, between children and the natural world exists and is perpetuated in the social, emotional, economic and spiritual relations that dominate Western society, and is reinforced through many institutional structures including curricula. Through many state sponsored curricula, the relational understanding between the human and more-than-human world is severed. This is accomplished through learning objectives that espouse separateness by using language such as *about* and *for* the environment rather than promoting a connection with it culturally or with a sense of belonging by using terms such as *with* or *part of*. This separation between children and nature is a catalyst for an environmental education that focuses on learning about nature with distance between the learner and the subject (Taylor, 2017). This artificial divide is indicative of a lack of Reverence, as humans perceive and position themselves as external agents who lack an understanding how they can be connected to the environment through more than just our dependency to live off nature's resources. Taylor (2017), like Packer (2011) in the previous section, argues that there is an urgent need for educational practices that resist humanist perceptions of our relationships with the natural environment as separate and should instead be viewed as an entangled web of interdependent relations between humans and more-than-human others. This interdependence of relations is what I and others (Wilson, 2008; Tynan, 2021) call relationality, *and it is the essential stimulus for the cultivation of Reverence*. It is essential, in order to develop this relational and ontological way of being,

that humans engage with nature. In the contexts within which I typically work, this manifests as Nature play.

Nature play is typically experienced in the outdoor setting. Therefore, researchers have occasionally grouped the two experiences of nature play and outdoor play together, making it challenging to understand if they're referring to outdoor spaces in natural environments or to manufactured playgrounds with minimal natural materials. From my personal and work experience, I am aware that some of the outdoor play settings (i.e. traditional playgrounds built mainly with steel or plastic) have not supported or encouraged children to connect with or take notice of nature in their surroundings. At the same time, I have observed children in these spaces seeking out opportunities to include more-than-humans in their play through engaging with bugs, rocks, weeds, and birds. Their actions of reaching out to pull nature into their space indicate an intrinsic need for the inclusion of nature in their daily lives.

Because children, young adults, and many other adults are disenfranchised of their power to construct or manifest the educational experiences that influence their development, it is imperative that we introduce educational supports such as our CREATIVE model to prioritize **Reverence** and **Environmental** relationality.

Friluftsliv, is a model that we feel acknowledges the imperative and intrinsic need for the inclusion of nature in our daily lives, and it stands in stark contrast to the positivistic pedagogical perspectives by promoting an ongoing relational engagement with the environment that we feel is the fundamental foundation to the cultivation of Reverence. The premise of *friluftsliv* is that one is constantly close to nature, meaning people are engaging themselves in any type of natural space, or incorporating being outside as an essential part of a daily routine (Gelter, 2000). More specifically, Gelter (2000) defines the true meaning of *friluftsliv* as being exposed to the open-air and immersing oneself within a natural area, which is any place that one can listen, look, and feel nature around them. Rather than labelling life outdoors as an “adventure” or something to be conquered, this concept creates an image of nature connection that is accessible to more people. Gelter (2000) also makes a profound point in stating that someone who is practicing *friluftsliv* is willing to accept and participate in all that the natural space has to offer, which implies that being open and prepared to learn is a key component in Scandinavian connections to outdoor lifestyles; this humility, as discussed earlier, is a key element in the facilitation or operationalization of Reverence.

Willis (2011) further reiterates the importance of being outside as an essential part of a daily routine and posits that we need not limit our being outside to engaging in and with areas historically categorized as wilderness because:

The term ‘wilderness’ is popularly understood to refer to environments minimally modified by human activity. However, truly pristine landscapes untouched by human activities do not exist anywhere on Earth today. Air and water currents have

spread toxic pollutants throughout the world, anthropogenically induced climate change affects every square inch of the globe, and most of the places that have been designated by Western societies as wilderness have been traversed by, used by, and often inhabited by people for hundreds if not thousands of years. Wilderness is not a clearly definable geographical category, but rather a concept. (p. 96)

Willis further articulates that because wilderness is a concept, we can subjectively reconceptualize or restore its meaning. She insists:

Instead of rehashing old stories of adventuresome men overcoming all the obstacles that nature puts in their way, new stories must be told, stories that challenge what adventure is and who heroes are, stories that open up possibilities for being and acting and that bring renewed meaning to people's lives and to the more-than-human world. (p. 104)

Further to this, Coe (2016) echoes Willis' (2011) argument that nature should not always be perceived as untouched and pristine wilderness. Coe states that we do not necessarily need to be completely immersed in a natural forest area to learn about and with nature because nature can be experienced in a variety of forms. This means that nature comes to us as small as the slugs children find on the playground or the spider in the classroom, the fieldtrip to the local park's forested pathways, or as large as Shane's transoceanic voyaging. Throughout his discussions, Coe (2016) emphasizes that place-based education (Gruendewald, 2003) promotes the opportunity for children to learn based on their hands-on and lived experiences in their own microsystemic communities (Bronfenbrenner, 1996), and because of this, they build relationships in the locales that they engage with most frequently. These locales are also auspiciously the contexts that most people will be able to individually and collectively influence.

Consequently, engaging in *friluftliv*, as a way of being, represents an opportunity to develop a "conceptualize[d] self as belonging to a kin relational, collective Earth system network—its ecosystems and life cycles . . . In ecological belonging all of existence belongs to environmental systems and networks" (Celidwen & Keltner, 2023, p. 2). Ecological belonging allows each of us the opportunity to restore our relationship with Nature. We, like Willis and Coe, encourage interaction with spaces that surround us in our everyday lives, so that our consistent, and mindful interactions may serve as a catalyst to our understanding of relationality as a pathway to Reverence.

Reverence, to this juncture, has been conceptualised as emerging from our relationships with being outside. But, it is absolutely essential to remember that while reverence may initially manifest from direct exposure to outdoor spaces, we should also understand that any separation between humans and the non-human world is a deceptive construction. A direct consequence of this is that Reverence that emerges from our relationship with outdoor spaces improves the reverence and accountability to all our relationships (Wilson, 2008). Shawn

Wilson (2008) recounts a story from his uncle of how Reverence can manifest in relationships in an automated world:

This machine here is made from mother earth. It has a spirit of its own. This spirit probably was not recognized, and given the right respect that it should. When we work in a world of automated things, we forget that . . . everything is sacred, and that includes what we make. (p. 90)

These words feel all the more meaningful when contemplating our everyday choices because nature is never absent from our life. The impacts of cobalt mining are carried in our phones, plastic accumulation in the Land and Sea is carried in our disposable coffee cups, a Silent Spring (Carson, 2002) sits within the produce in our fruit bowls, and exploitation in all its guises sits on the shelves of our local dollar store emporium. That is why we so strongly advocate for the inclusion of environmental Reverence precipitated by *friluftliv* in the work that we do, and why in the CREATIVE framework the first E is for Environment as the way of being that informs the second E of Engineering. It is this relational environmental perspective, linked with action, that we hope can help facilitate a global shift towards environmental Reverence, initially, but universal Reverence ultimately. In an attempt to illustrate the potential for Reverence in diverse and universal contexts, we transition between early learning contexts to secondary school on the high Seas.

Environmental Relationality as a Pathway to Reverence in the Context of Tall Ship Programing

My name is Megan MacLeod. I am a graduate and the current principal of the Class Afloat program. I have over thirty-thousand nautical miles of sailing experience, and I am uniquely situated to envision how Reverence might be incorporated as an elemental point of reflection within the experiential context of tall-ship voyaging.

Class Afloat is a travelling school for students in Grade 11, Grade 12, and those having just completed high school. Students spend a nine-month school year studying and partaking in academic high school classes or entry level university classes offered in partnership with one of our Atlantic Canadian post-secondary institutions—Acadia University. They do so while working as crew members—trainees—aboard a tall ship that circumnavigates the Atlantic Ocean, covering approximately fourteen thousand nautical miles and visiting more than a dozen ports of call. The ship's name's sake, Alexander von Humboldt, was considered for decades to be the father of environmentalism. The school was created as a response to the 1984 UN International Year of Youth which carried the themes of Peace, Participation, and Development. This academic school year, Class Afloat will celebrate 40 years of offering experiential education.

Living, working, and undergoing academic study at sea provides students with the environment and exposure to experiences that quite naturally act as a catalyst for the development of Reverence, or at the very least, opportunity for reflection on the concept. The novelty of the ocean environment, the way in which, at times, it is more reminiscent of a desert than an ocean, its changing hues and Sea state, and the act of observing the horizon in all directions from the top of the mast, are all awe-invoking, particularly when experiencing them for the first time.

Community has always stood as *the* core value to the school. Students live in tight quarters, making it difficult for one individual to consume more space or resources than their peers. The co-ordination required to ensure that all crew members (students, faculty, and maritime crew) remain physically safe and healthy, can accomplish the shared goal of reaching the other side of the Ocean, undertake academic study, and maintain relative harmony between one another is significant. The shipboard environment is often described as a microcosm to our broader world where the impact of actions can be seen and felt by others with striking force in real time.

Sailing a tall ship cannot be done alone. It can't be done with half a dozen people. It requires many, a critical mass. And once that critical mass is reached, we cannot escape the necessity for interdependence. Being a crew member aboard a tall ship requires that one rely on people and elements outside of themselves to accomplish the goal. It has often been remarked that if we, as shipboard facilitators of learning, did nothing else other than to allow the students to live their tall ship experience, they would emerge from it fundamentally changed, having developed, to various degrees genuine skills needed for living in community. Yet we have always sought to bring more intentionality to the process. Living in community well requires skills that span across emotional, cognitive, and social domains. The lessons presented below have been developed with the objective of helping students improve awareness and understanding of their own emotional needs, and their responses of awe and potentially Reverence as they navigate their experiences aboard the ship and across oceans.

As one element in the model shifts so do others. Class Afloat shifts the sphere of environment for students quite dramatically, but we also bring intentionality to other elements of the concept—including the self and identity. Shane and Robyn both identified experiences with the natural world that they had themselves or that they wished to provide to children as influences on their current orientation and identity. The concept of identity is often explored in secondary curriculum, frequently linked to Career Education, exploration of power and privileged, or in a more relational way to the development of social relationships and skills.

Exploration of identity through the lens of the natural environment and early formative memories with the natural environment is one such way in which

students at Class Afloat work to build Reverence. Students are asked to draw on early memories and experiences that hold meaning for them, considering what their inner mental and emotional state was when having such an experience. They consider the ways in which such memories have orientated them in the modern world.

To help facilitate these processes we have developed a comprehensive lesson that outlines three activities and operationalizes environmental relationality as a pathway to Reverence within the context of Class Afloat. While this lesson with its attendant activities have been used extensively with Class Afloat students, it is not intended to be interpreted as a prescriptive norm but as an invitation to explore a pathway to knowing that might be revised or reimagined to any context of learning. Just as this lesson is an invitation for educators to explore and reimagine pathways to knowing, so it is presented as an invitation to students aboard Class Afloat. It is the iterative presentation of invitations, such as this, that provoke reimagining and restorying (Willis, 2011) that, if accepted by students, can act as a catalyst towards an understanding of relationality (Wilson, 2008).²

Lesson: Environmental Relationality as a Pathway to Reverence

Outcomes

1. Students will explore components of their identity through considering their personal histories and stories and their ecological relations.
2. Students will practice listening for understanding and gain experience in perspective taking in a low stake setting/context.
3. Students will make connections between literary themes and scientific concepts, particularly those related to the ocean environment.
4. Students will explore themes of awe, wonder, and Reverence through the lens of the Sea.
5. Students will demonstrate understanding of narrative elements and storytelling techniques.

Activity #1: Talking to Trees

This activity is inspired by the work of Wohlleben (2019), Cornell (1998), and Hubbe & Buehlmann (2010) where the consciousness of trees is contemplated, the potential for relationships with particular trees is explored, and a reverence for wood is embraced. In fact, Thuermer (2012) developed a program where students could build relationships with trees through cell phone conversations. Students on Class Afloat don't text a tree, instead they find a tree to talk to. In this activity, which is often conducted as part of the 2-week-long foundational instruction that occurs on land prior to student's boarding the ship, students are directed to simply find a tree (or a plant in nature) that draws them. Then, they talk to that tree. The facilitator gives the direction that students will be given 5 minutes to simply talk to the tree. It is suggested to just start talking and keep talking, observing whatever comes out. Students are challenged to just keep

talking for the full five minutes. After, we reflect (“What was it like, how did it feel, what did you learn, how might this change you in the future?”)

The intention of the activity is to give students a chance to experience sharing themselves (their thoughts/emotions) with a living object that is not a person. We reflect on how when we share ourselves with other people, we are always (consciously or subconsciously) aware of how they are receiving us. Are they judging what we are saying? We might shift or change how we present ourselves, especially when we are sharing vulnerably, based on how we perceive we are being received by the other.

Trees may have awareness (Wohlleben, 2019) and if we communicate with a tree, we will typically be ignorant of any judgement it may pass. Consequently we may feel that a tree can hold anything we offer it, and it will still offer us the same shade, the same cover, the same music of the wind through its leaves, etc.

As a human, to experience this perceived unconditional acceptance can potentially be transformational, for recognizing:

1. How we share ourselves with others (Are we sharing our authentic selves? How much more do we share when we are received unconditionally? What comes up and out of us in these spaces?)
2. How we receive others (How much do we invite/welcome another’s authentic self when they share with us?)
3. How we can experience a deep connection with nature, when we open ourselves up to it, how the natural world is full of living beings to interact with – it can hold us if we open ourselves up to it. And in doing so, we recognize more fully nature’s own aliveness. Students are encouraged to notice over the next days if they continue to notice a connection with “their” tree. I believe, and am in full agreement with Wilson (2008) and Celidwen & Keltner (2023) that we can transform our connection with nature on a systemic level (protecting our natural environment, prioritizing the natural world over the consumer world) through relational change with its living beings.

Adapted by Dr. Beth Wars of, from Wilderness Therapy programing, for use in Class Afloat.

Activity # 2: What’s Your Relationship With Water?

In this activity, students explore their personal connection to Earth’s wild water and reflect on its significance for them. Through listening to one another’s stories and considering further reflection prompted by follow up questions, students also practice perspective taking.

While this activity can be conducted anywhere, educators may consider bringing students to a natural setting that elicits sights, sounds, and sensations of water as it is found in the natural environment (as noted in Robyn’s section these places should be accessible and offer student’s an opportunity to reflect

on their relationship to the water of that space, and if contemplating the water-cycle, water globally).

1. Have students find a quiet space to themselves and reflect on the simple question: What's your water? Meaning:

- What is the water you first fell in love with?
- What is the water you long for?
- Who introduced you to the water?

The length of time for reflection can vary by student age/level, and the context within which the activity is being conducted. Educators may wish to provide students with paper, drawing, or art tools to capture some of their thoughts.

2. Have students pair up and share their response with a peer for 3 to 4 minutes. The person listening should only be listening. No interrupting, no questions. The instructor may want to remind students to resist any temptation that may arise to make a comparison to the story they are listening to. Once the sharing student is finished the listener can ask further questions about that experience, such as:

- Where were you?
- What did you see?
- What could you hear?
- Were you alone or with others?
- What did you like or not like?
- Did you learn anything new?
- How did you feel?
- What made this experience special?

The goal of the listener/questioner is building empathy through learning *more* about the student's experience and in turn prompt the student to consider more about the experience than they may have initially.

3. Allow students in pairs to reverse roles

4. Bring the class together and encourage anyone that would like to share their story of water with the larger group or (with their consent) have their partner share their story.

Activity #3: Ecological Autobiography/Photo journal

This assignment delves into our personal human-Earth relationships. Its purpose is to arrive at new understandings of self, the living world around us, and our

role within it. Students write their ecological autobiography by describing or sharing images of natural environments and ecological communities that they have encountered throughout their lifespans. The goal is to choose encounters with the natural world that students feel have influenced them *enough* that by describing the encounter, they are in some way describing and exploring elements of themselves.

On Class Afloat, we call this process *creating an ecological autobiography*. During this process, students tell the story of their personal experiences and relationship with nature over time. They consider the stages of their life thus far: early childhood, middle childhood, adolescence, and young adulthood. They further consider and share the distinct memories of experiences in nature from these different stages. The students are encouraged to focus on experiences and not necessarily facts. Each student identifies any recurrent themes, and tries to express any insights and perceptions about *the meaning* of those experiences. Autobiographies may also include a discussion of specific themes or patterns which surface through reflecting on one's story. Some appropriate prompts include:

- What experiences with nature do you remember most vividly?
- When you were younger, did you have a favourite place outdoors where you spent quite a bit of time? What do you remember about this place and what did you like about it. How did you feel and what did you do when you were in this place?
- What special lessons or insights have I gained through these experiences?
- In what ways has your school or schools put you in touch with the natural world? How do you feel about this?
- Have you ever had a special moment where you feel especially close to nature? Describe this moment and the feelings you had.
- Were there places you disliked or made you feel afraid?
- Did you have any experiences that made you feel especially aware of the beauty or power of nature?
- How have nature or ecological related experiences influenced any decisions you've made—possibly career decisions, consumer choices, decisions about where to live or where to vacation? What are the results of those decisions?
- How does your present relationship with nature compare to your relationship with nature at previous stages?
- Do you anticipate future changes and/or additional stages in your relationship with nature? How would you describe this?

This activity can be elemental in students beginning to recognise the intersectional relationships with natural spaces that have contributed to their development as human beings. Our expressed hope is that these activities, in whole or in part of a broader program such as Class Afloat, open a door to relationality that transforms each student's way of being.

Conclusion

As our narratives suggests, we have opportunities to explore and experience relationality, awe, and Reverence in our everyday lives. Through our relationships and lessons, we can inspire and promote Reverence. We should mindfully engage with these moments and spaces on a daily basis with the understanding that any separation between humans and the non-human world is a deceptive construction—a construction we need to actively challenge through our everyday choices. So, whether sailing the ocean on a tall-ship or wandering a local park's forested pathways, our most sincere hope that any readers of this article reflect on their relations to the more-than-human world and discover opportunities to perpetuate, through their teaching and being in the world, humility, environmental relationality, and Reverence. Further to this, we hope that educators choose the CREATIVE framework and adaptations of our lessons and relationships, as a lens through which to develop and revolutionise their teaching practices and share in the essential task of reclaiming our relationships. Because it is only through this relational environmental perspective, linked with action, that we can hope to facilitate a global shift towards environmental Reverence, initially, but universal Reverence ultimately.

Notes

- ¹ We have chosen to capitalize Reverence as a visual cue that this term is a component of the CREATIVE framework.
- ² While the authors did not acquire ethical clearance to communicate details about student experiences, readers are encouraged to visit the Class Afloat website under the “Alumni Say” tab to read firsthand accounts of student experiences and the transformations brought about by the programming implemented on land and at sea. <https://classafloat.com/>

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