

Plants as Co-Teachers and Co-Healers: Joining Place-Based Education and Wellness at the Cottonwood School of Civics and Science

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Abstract

For the last 14 years, the Cottonwood School of Civics and Science has worked to integrate local places, histories, and ecosystems into the school curricula. In this essay, the two authors (the school fieldwork coordinator and the school counselor) explore how seeing plants and the natural world as active agents within the school has the potential to shift the culture toward healing, a necessary action within communities that are experiencing pandemic-related stress and other traumas. A specific cottonwood tree (addressed in this essay as “Cottonwood tree” with capitalized “C”) serves as a guide in this example and encourages us to further consider how plant-teacher-student relationships can redefine the roles of teachers, students, and counselors in school settings. Further information at <https://vimeo.com/694192334/03025d591c>

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In many cultures around the world, water is associated with our inner emotions and our spirit. Cottonwood is a reservoir of water. A single tree has miles of roots that anchor deep in the earth, drawing massive amounts of water up to the surface. It can hold this water in its trunk and breathe it out through its leaves, thus helping to generate rain. Cottonwood reminds us to dive inside ourselves and access our inner spirit. We are connected to a greater source of strength.

—*Plant Teachings*, (Ka'ohulaniBruce et al., 2020, p. 21)



Image: The Cottonwood tree, Sarah Anderson, March 2022

Part One: Plants as Teachers

For the last 14 years, the Cottonwood School of Civics and Science has worked to integrate local places, histories, and ecosystems into the school curricula. In this essay, the two authors (the school fieldwork coordinator and the school counselor) explore how seeing plants and the natural world as active agents within the school has the potential to shift the culture toward healing, a necessary action within communities that are experiencing pandemic-related stress and other traumas. A specific cottonwood tree (addressed in this essay as “Cottonwood tree” with capitalized “C”) serves as a guide in this example and encourages us to further consider how plant-teacher-student relationships can redefine the roles of teachers, students, and counselors in school settings.

The South Waterfront District of Portland, Oregon, is currently experiencing what city planners label “urban renewal.” The Waterfront was once an active industrial area. It is now being redeveloped as a dense urban neighborhood full of high-rises, medical offices, and carefully maintained greenspaces. [The Cottonwood School of Civics and Science](#), a small K-8 publicly funded charter school, shares a building with a heated storage facility at the south end of the neighborhood. Creating a school within a non-traditional environment requires creativity, and that is what we have done with the limited outdoor space. The parking lot has been repurposed as a playground, complete with a climbing rock, sand pit, and water feature. The side parking lot now houses an outdoor cafeteria for pandemic-era lunchtimes. An access road behind the building (known to students as the “side yard”) serves as a space for recess and physical education.

Calling the road a “side yard” is generous, as it is completely paved besides a few weedy shrubs and a single Cottonwood tree. The Cottonwood tree is one of the only wild trees nearby and it does not quietly submit to the plans of urban renewal. The roots have already destroyed part of the pavement, creating bumpy, cracked waves of asphalt rippling away from the trunk. Offshoots from the roots busily push through the road in other places, creating new areas of disruption. For students, the lone tree provides protection from the sun and rain, and the bumpy ground offers terrain other than the unnatural flat of human-made surfaces. Students hug the tree, use it as a safe zone in tag, and incorporate fallen leaves into their play. This one wild tree has been adopted as a member of the school community. The Cottonwood tree invites students into a relationship with the land and their place. What do we accept from that invitation? And what do we return?

The mission of the Cottonwood School is to provide place-based education (PBE) as a basis for curriculum. A key component of this mission is connecting topics of study to local places, both natural and human-made. When students learn about geology, they visit local sites of volcanic activity. When they learn about the civil rights movement, they tour areas significant to Portland Black history and hear from guest speakers. When studying geography, students create maps of their home and school neighborhoods. Generally, teachers and administrators consider all the ways we can take down the walls between school and the community as a way to engage student learning.

More recently, the Cottonwood School has worked to better integrate Indigenous studies and perspectives across our curriculum. We recognize that holistically studying place requires a deep dive into the histories and knowledge of the peoples who have lived here since time immemorial. This grant-funded work began in 2019 with a small lead team of teachers attending professional development opportunities, reading books, meeting and discussing while also inviting Indigenous educators to work with our staff and students. At the same time, the state of Oregon rolled out [Tribal History/Shared History](#), made in partnerships with the nine federally recognized tribes. The statewide curriculum offers lessons on Native history, government and culture, as well as teacher training to support responsible and informed classroom practices. The goal at the Cottonwood School is to build materials and experiences to deepen and extend the lessons from the state, weaving them tightly into our place-based units.

As part of the grant-funded work, the entire staff read *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants* by Robin Wall Kimmerer in the summer of 2020. Kimmerer introduced to us a new way of looking at education: students learning *from or with* nature, instead of learning *about* it. For much of our staff, the idea of “plants as teachers” came as a new concept. Most of us were trained from childhood in the Western scientific approach to Earth sciences in which the subject (student) studies the object (plants). Kimmerer’s writings challenged this notion and encouraged us to entirely rethink the way we engage with the world. In the first chapter of *Sweetgrass*, Kimmerer writes:

...In Native ways of knowing, human people are often referred to as “the younger brothers of Creation.” We say that humans have the least experience with how to live and thus the most to learn—we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example (Kimmerer, 2015, p. 9).

“Nature as teacher” may be novel within the dominant educational system, but it is certainly not a new idea; it is a

very old one. In the essay “Philosophy of Native Science,” Gregory Cajete (2000) writes that, “Native science continually relates to and speaks of the world as full of *active* entities with which people engage.” (p. 50). Sean Blenkinsop and Chris Beeman (2010) suggest that nature can be a “co-teacher” based on their experiences leading students outdoors and learning from Native elders. When people learn from nature, “meaning appears to be co-created with an active, present and ‘intending’ other” (p. 33).

“Nature as Co-Teacher” has been adopted as one of the six touchstones of Wild Pedagogies, (Jickling et al., 2018) a recent re-thinking of environmental education. Essential to this touchstone is the concept of “recentering more-than-human voices. No longer is the environment an important backdrop upon which learning happens, nor is it simply something to be interpreted solely by adult humans, but it might become an active member in teaching and learning” (p. 4). Educators at the Cottonwood School were excited to share the role of educator with the active world, and this folded in well with our place-based approach to learning. Even if we didn’t know exactly *how* to go about it, we agreed that finding more ways to learn from plants could be a good way to deepen our relationship with our place.

After reading *Sweetgrass*, we noticed that our established list of character traits (made up of attributes such as kindness, perseverance, courage and integrity) lacked some of the values that we especially appreciated in Kimmerer’s text, such as generosity, humility, interdependence and reciprocity. Additionally, our teachers generally struggled to find ways to authentically integrate the original character traits into their curriculum. We knew that rethinking these concepts was part of the school culture evolution we needed to better address social-emotional learning in the classroom.

In the fall of 2021, we began regular meetings with a Native educator advisory group as part of our grant. One question we brought to the group: How can we rework our school’s character traits by weaving in the teachings we gleaned from *Sweetgrass*. During our staff retreat at the end of the 2020-2021 school year, we wondered if we could pair each trait with a native “plant teacher.” When we brought this idea to the advisory board, one member, who is a teacher of Native plant traditions, informed us of an organization in Olympia, Washington, called GRuB (Garden-Raised Bounty) that has already done this work and published it in a book entitled *Plant Teachings for Growing Social-Emotional Skills* (Ka’ohulani Bruce et al., 2020). This was wonderful news and laid the groundwork for a future partnership.

Plant Teachings was written in collaboration with GRuB, Northwest Indian Treatment Center, and Seattle Indian Health Board. The team of authors, both Native and non-Native, intertwine plant knowledge with social emotional learning and mindfulness activities. The introduction, co-written by Chenoa Egawa, Sable Bruce, Elise Krohn, and Lisa Wilson, echoed what we had read from Kimmerer:

[Plants] are our allies—each carrying unique wisdom and valuable teachings that can help us learn, grow and heal. Plants lead through example.... As we spend time building relationships with plants, we come to understand the depth of their wisdom, and we connect to important teachings of who we are and how we can be happy, healthy, and resilient (p. 7).

Although the book was originally developed to support Native health and treatment programs, “it is also intended to encourage non-Indigenous people to connect with local plants in order to live more healthfully, respectfully, and sustainably” (p. 10). Following up on our engagement with *Sweetgrass*, the *Plant Teachings* lessons made a lot of sense for our school. Maybe this is where we could learn some of the “how.”

The book was only one small step toward accepting plants as co-teachers in our school. Thinking of plants as “*active* entities with which people engage,” as Cajete suggests, requires a significant shift in perspective for educators steeped in human-centric Western culture. Beyond books, our teachers and students needed opportunities to spend time with plants. To get to know them, to notice, to listen. This would mean getting our classes out more for the explicit purpose of meeting plants, and to better acknowledge the teachers we hadn’t acknowledged before, such as the Cottonwood tree adjacent to our property.

While planning the return to in-person school in the fall of 2021, staff members hoped that increased interaction with nature could be one of the silver linings of teaching during a pandemic. In fact, perhaps the area behind our school could offer students and teachers their own version of renewal. The school received permission from the state transportation department to erect tents in the side yard to use as outdoor classrooms. We recognized that the location wasn’t ideal, but perhaps this could be the first step in getting students outdoors more regularly, while also mitigating the transmission of COVID-19. The end of the access road, less than 100 yards away from school, empties onto a pedestrian path that follows the Willamette River north and south. Down the path a quarter of a mile is Cottonwood Bay, a small natural area owned by the city parks department. Most teachers had taken students here before, and this year Cottonwood Bay had the potential to truly become part of the outdoor classroom. Fueled by our

grant work and the excitement of returning to the classroom, morale was up before school re-started in the fall; teachers were looking forward to again connecting with students and place, in person.

Part Two: Pandemic Wounds

Over a year of distance learning led to elevated levels of stress for our students and families.

Now all students were coming back full time and in-person. Student well-being was our top concern, but it was hard to predict all their needs. Many were extremely isolated during the pandemic. Some students lost loved ones, had to stay home alone, had to take care of siblings, or were struggling with mental health. Others didn't engage in distance learning and their situation was unknown. Many were looking forward to coming back into the classroom, but worried about the school closing again unexpectedly. Lives were completely altered by the pandemic, and most families experienced some level of stress (Sheldon-Dean, 2021). Stress and trauma impact young people in varying and sometimes unpredictable ways (Wilson, 2019). Gaps in academics was an additional question. Adjusting to a more structured environment would also be a shift for students who enjoyed the independence and thrived with the more self-directed pace of distance learning. The Cottonwood School staff readied to create a safe space for our students to land and connect. We wanted to be a source of steadiness and calm as we welcomed them back to school.

Proximity to regulated adults is a protective factor for young people. By "co-regulating" with an adult, students can develop their own regulation skills (Rosanbalm & Murray, 2017). Access to calm adults is a privilege that was not available to all our students during distance learning. This was an added stressor for some of our students. As part of preparation before school started, staff talked about the importance of our own mental health in terms of supporting students. We would set the example and hold the space. The plan was to spend six weeks focusing on connecting as a class, building relationships, and sinking into this new stage of being a community (Denton & Kriete, 2000).

But as we keep learning over and over, the best laid plans are often overturned during a pandemic. Creating a safe, calm and nurturing environment ended up being more of a challenge than we anticipated. It quickly became clear that coming back to school was overwhelming and overstimulating for students. None of us were used to the realities that come with being around so many other people all day. Students were having a hard time, and resulting behaviors made even more students have a hard time. Many students also seemed to have lost basic student success skills, such as being kind, working as part of a group, taking

turns talking and listening, staying seated during instruction, and even looking at the teacher. Students were unfocused, dysregulated, and disruptive. We had kids who couldn't sit still, kids who had severe anxiety, kids who were bullying other kids, kids who had their heads down on their desks. Lacking social and friendship skills resulted in students hurting each other both intentionally and accidentally.

Teachers worked diligently to intervene. Each class had a calming corner where students could go if they needed to leave their desk and take a break while still in the classroom. There were other places at school to de-escalate outside the classroom. Kristin (school counselor and co-author) was teaching mindfulness and social skills, leading breathing exercises and wellness lessons in the classroom. Kristin also worked with students on self-care, using "I statements," noticing when they needed a break, and building new patterns when they were upset. Teams worked with students and parents to support learning, management of emotions, and behavior. Teachers built in time for social emotional learning, breathing, and held problem-solving meetings daily. All these things were helpful and are known to support kids' well-being and self-awareness at school, but it wasn't quite enough (Meiklejohn et al., 2012).

As we realized that student behaviors and dysregulation far exceeded what we expected, teachers also felt overwhelmed and overstimulated. We didn't have substitutes due to a teacher shortage, so leadership and support staff acted as subs, further decreasing available support. Before the school year began, Kristin had presented to teachers on the topic of co-regulation. It now felt unrealistic to ask teachers to stay calm in the midst of chaos with not enough support from which to draw. It seemed logical that if our calm could be passed to our students through co-regulation, so could our stress. We were all needing support with coping skills, stress relief, and feeling grounded.

Meanwhile, our rebel Cottonwood growing out of the asphalt behind the school attracted both student and teacher attention. One day as students played in the side yard, they noticed someone from the city standing under the Cottonwood tree, examining the cracks in the asphalt. The kids asked what he was doing and he answered that he was planning to repave the asphalt and apologized for the bumps being possible trip hazards. He said he could cut the tree down to ensure it wouldn't happen again. This sent the students into a state of action: No! They can't cut down "our" tree! One of the 1st and 2nd grade teachers began looking into who was thinking of taking down the tree and how they could campaign as a class to stop them.

Despite looking strong and well-rooted, this tall Cottonwood, just like our students, had become even more vulnerable than it already was in an urbanized, colonized landscape. In the midst of rampant student anxiety, the survival of the tree became just one more unknown. Separated and isolated from other cottonwoods by the river, it was possible that the tree was experiencing its own trauma, surrounded by hostile forces of development. In this state, the Cottonwood offers us a living example of rebellion and resilience, and at the same time, we must recognize the limitations set on the trees' ability to thrive. Again, as educators, students, and community members, we must have the courage and curiosity to wonder: What is the tree teaching us?

Part Three: Plants as Healers

In a typical year, Sarah (the school's place-based education and fieldwork coordinator) plans over 100 fieldwork trips. This year, no cars, trains, or buses meant that if students left the school building, they could only visit places on foot. For many classrooms, this led to a sharp decline in the amount of time they spent outside of the building. Many teachers couldn't access their normal fieldwork locations, and others did not yet feel comfortable taking their classes out of the school, especially if they had students who showed signs of unsafe behaviors or running away. As we responded to daily reports of students feeling unsafe and teachers telling us they were at their breaking point, the priority in our school became the social and emotional needs of our students instead of brainstorming new fieldwork options. As what often happens when schools and teachers become overwhelmed, elements of the educational program that are deemed "non-essential" are set aside, even when it is those very elements that could help address the problem. The place-based mission shifted to the back burner.

As the fieldwork coordinator, this led Sarah first to reconsider her role at the Cottonwood School: what can a place-based education and fieldwork coordinator do when there really isn't much fieldwork to coordinate? Within that question, another question began to germinate: is it possible to address trauma while also maintaining a focus on place? Or asked differently: *How can we meet trauma with the power of place?*

Down the hallway in the counseling office, a parallel wondering simmered in the back of Kristin's mind: *What does it mean to be a school counselor at a place-based school?* The part-time counseling position at the Cottonwood School was relatively new. Kristin had training in comprehensive school counseling, which meant she didn't sit in her office behind a desk. She made it a priority to be in classrooms, on the playground, and build relationships with

all students. School counselors support all students in their social/emotional wellness and growth, as well as their academic achievement and preparation for a full life and satisfying career. Figuring out how to fit it into the mission of the school was a unique challenge, especially during the COVID-19 pandemic.

As a starting point, going outside more could be a key component of a place-based approach to wellness. It is well documented that being outside is great for both mental and physical health for all ages. Being in nature allows each student to meet their unique needs for sensory input (Homan, 2021—this isn't on the ref list; could this be Bowman?) and allows space to spread out from each other. Nature lowers stress levels and helps us slow down and ground ourselves. It helps us be in the present moment and engages curiosity (Sweet, 2021; Kuo, 2015). It also gives students the opportunity for unstructured movement outside, which is in sharp decline despite the many benefits it offers young people (Bowman, 2021).

From a wellness perspective, taking students outside also seemed like a logical response to the unfolding social/emotional crisis. Simple interactions with nature--feeling the rain on our face, watching the river flow, noticing the trees, plants and animals around us--could be enough to interrupt behavioral issues and invite regulation. We all need a break, more space to breathe, and reminders to slow down and connect. Being outside can also restore our attention and improve mental health (Pearson & Craig, 2014). Djernis and colleagues (2019) have shown that teaching mindfulness is more effective outside in a natural setting. Kristin had talked to teachers about how to be effective co-regulators before. Now she wondered: *Can we co-regulate with nature instead of each other? Can we all go outside together to start healing as a community?*

Kristin started to lead mindful walks to a river viewpoint about a block from the school. Using our senses, the goal was to notice things we hadn't noticed before on this well-traveled path. Helping students use more than just their visual sense is thought to increase the benefits of being outside (Franco et al., 2017) as well as help children with developing body awareness. The students crunched leaves with their fingers, felt moss between pavers and bark on trees, observed seed pods, and pointed out birds. This walk was also intended as a pause from the day--an opportunity to reset. At the river viewpoint each class watched the river while trying to be silent and still for a minute or two. Kristin encouraged students to notice what happens for us during that time, without judgment. We talked about the line of tall Cottonwood trees across the river, in their leafless winter state. There were so many new things to notice, even

though students take this walk to and from school all the time.

Despite the brevity and simplicity, the mindful walks produced a more profound impact on some of our students than expected. A few children had to be peeled away from their quiet spot, reminded multiple times to head back to the classroom. Our newer students said they had never seen the river that close before. Many expressed that they wanted to walk down and get closer to the water. Some said they had never been quiet or still for that long and wanted to do it again. Some said they wished we could do this every day and for longer.

There were also many students who couldn't be still or quiet at the viewpoint, had busy brains, rolled their eyes, or weren't engaged with the prompts. Some ran away from the group or got too close to the edge of the high riverbank. This is an expected part of the process: to meet people where they are and encourage learning and reflection. The goal is to invite students to try something and introduce the concept, not have perfect silence and stillness right away. At the check-in at the end of the walk, even the seemingly disengaged students expressed that they wanted to do more. Teachers also communicated that they wanted to take walks to the river more often and that the trips were calming for them, too, leaving them feeling more regulated. Teachers also reported that their students continued to talk about the experience upon their return to the classroom. This felt like a baby step in the right direction.

When Sarah learned about Kristin's mindful walks, and Kristin learned about the *Plant Teachings* book, a natural collaboration sprouted. As place-based education and wellness coordinators, we saw how we could combine efforts to support students and teachers in finding a way forward. *Plant Teachings* felt like the obvious next step: it continued weaving many threads our school had already started to incorporate in terms of Native knowledge and connection to local ecosystems. Additionally, the plant lessons showed us how to directly tie this knowledge to wellness. According to the book, learning from plants is a way to "reconnect us with the natural world and ourselves. Spending time in nature, being quiet, and observing and listening to plants brings our hearts, minds, and bodies into alignment. It slows down our thoughts, releases stress, and puts us at peace— helping us to feel what it is like to be truly present in the moment" (Ka'ohulani Bruce, 2017, p. 7). Such an approach could directly build on the mindfulness work already launched with students and teachers.

The fact that the fusion of place and wellness seemed so obvious to us now also made us realize (and puzzle over) how it had never been obvious before. We were familiar

with the idea of place-based education as a way to restore habitats and communities through education and hands-on caring. We had experience bringing forth undertold histories from our city's traditionally marginalized communities to create a more holistic understanding of our place. And we had heard about place-based education addressing economic problems, especially in rural areas. But not until now had we truly considered how the land where we live also has the power to heal us and to address the trauma and emotional distress experienced by our students. After years of discussing social emotional learning, auditing our wellness program for strengths and weaknesses, assessing different approaches and curriculum, not once did we think to include place or the land as part of the process. Most likely this was because of our assumption that Western psychology serves as a basis for social-emotional health, as guided by most social-emotional school approaches and curricular guides. Reading *Braiding Sweetgrass* and learning more about plants circuitously led the two authors to question these assumptions and begin to investigate other ways.

Jeff King (2012), an American Indian psychologist, discusses the tendency of Western culture to reduce all things, both living and not, to objects and the harm this causes:

If you see the world around you as a collection of objects for you to manipulate and exploit, you will inevitably destroy the world while attempting to control it. Not only that, but if you perceive the world as lifeless, you rob yourself of the richness, beauty, and wisdom to be found in participating in its larger design (p. 41–42).

The field of psychology is starting to catch up to ancient wellness practices and wisdom incorporating connection and relationship with the natural world, which is conducive to well-being and mental health (Robbins, 2020). All the disconnection, struggle, and hurting each other happening at our school reflects a larger pattern in our society. Indigenous psychologies can help us learn ways to decolonize our conceptualization of mental health, be culturally responsive, and uncover bias. It invites those trained in western mental health models to open up to a new way of thinking about healing, community, and wellness (Narvaez, 2019a; Narvaez, 2019b; King, 2012). As we, two white educators, are exploring alternative perspectives in the field of psychology, we are realizing there is a lot to learn and consider when integrating our wellness and place-based program. How can we help our students participate in our world and build deep connections with themselves, each other, and our place? Our inclination to apply nature as a salve for healing is held up by indigenous wisdom and practice.

We felt moved to learn more about *Plant Teachings* and invited the authors of the book to come speak to our staff. Our educators had concerns about time, integration into our existing curriculum, and appropriation of Native culture. The presenter walked us to the river side to teach about cottonwood trees, tell stories, and speak to teacher concerns. They also showed us how to make cottonwood salve, a healing ointment made from the buds and used to treat wounds. It was not until that presentation that most of our staff learned that cottonwood is medicine.

The presentation addressed teacher concerns but, more importantly, deeply inspired and connected our staff. During a time when there is unprecedented teacher burnout, it felt radical and compelling to shift our focus and invite plants to be our co-teachers. Cottonwood trees could be the first. The tree's teaching is "wellspring." Cottonwoods are good at finding water, bringing it to the surface, and storing it in their trunks. They are well suited to handle both drought and flooding, teaching us that "we are connected to a greater source of strength" (Ka'ohulani Bruce et al., 2020). In a time of hardship and exhaustion, we all needed this reminder.

The staff presentation also encouraged us to consider our collective identity. School leadership originally chose the name "The Cottonwood School" because of the association with a native plant, a symbol of place-based education. Because the school is near Cottonwood Bay, the affiliation seemed clear. We also liked how the cottony seeds that blow across the city symbolize the travels of our students as they explore their communities. But in the several years since the name was chosen, never have we explored any potential symbolism with our students, or even made an effort to teach about the cottonwood trees. We now had an opportunity to not only deepen our knowledge of cottonwood, but to also learn who we really are as the Cottonwood School. During this time of hardship, how can we forge an identity together? How can we draw from deep within ourselves, and from the earth itself, to learn how we are connected? How can we *become* the Cottonwood School? As we reposition our focus on the natural world, the earth prompts self-reflection and encourages us to think more deeply about who we are and who we want to be.

Part Four: The Possibilities of Place

There are current movements to make PBE more "school friendly" by aligning it with desirable educational skills and outcomes, such as critical thinking, inquiry-based learning, and next-generation science standards, all of which are valuable. As we consider ways to authentically connect our students to their place, we at the Cottonwood School have been reminded to not forget the healing power of the land,

and our responsibility to listen and learn, especially now when both our children and the land have plenty of wounds in need of healing. It has been discovered that native cottonwood trees have the ability to fix nitrogen in the soil, thus improving poor conditions and creating a healthier environment for themselves and other plants. How could we help the Cottonwood tree along with its own work, to remove some of its stressors, while also learning from its example?

There is no doubt that the pandemic disrupted life for many. When children and families spend more time inside and separated from others, there are bound to be greater sensations of isolation and disconnection and less comfort with uncertainty. Up until now, the way we have considered addressing this reality as a place-based school was to engage our students more with their communities, both natural and human. But like many environmental education programs, our focus has been on how humans can help heal the earth without acknowledging the earth's capacity for healing us. Kimmerer's words encourage a shift: "...it is not the land that has been broken, but our relationship with it.... We restore the land, and the land restores us" (p. 336). Cottonwood trees extend to us a healing salve, both literally and metaphorically. It is a gift that our school is only now able to acknowledge and receive.

The integration of place-based education and wellness also pushes us to consider other possibilities for fusions. David Greenwood shares similar wonderings:

Once we start to explore place-based education, we begin to find connections to other educational and wisdom traditions, such as mindfulness and non-violence. If you keep asking questions about a place and people's relationship to it, it leads to holistic thinking. Holistic education is a parallel tradition that together with place-based education makes a great combination—connecting people and place in our wholeness, and not just for the sake of 'curriculum' (Altman, 2015, p. 9).

Thinking holistically means taking down conceptual barriers between "outdoor education" and the rest of school. Aside from the more obvious connection to science and social studies, how can educators apply a place-based lens to other subjects for the collective benefit of students, teachers, and the Earth? How can we co-teach with nature when we lead lessons in art, writing, and movement, to name just a few? The possibilities are boundless.

It is important to acknowledge that this work could also be the beginning of a cultural change project. If we take seriously the idea that nature can be our co-teacher and co-regulator, many elements of our program would need to look different. For one, we would need to find time for

teachers to plan outside, to build authentic plant relationships, and avoid using plants as merely curricular props. We would need to rethink how we design lessons, how we define assessment, and how we schedule the day to allow more room for students to build their own relationships with nature and to practice observation and extend curiosity. As a place-based school, we may spend less time traveling to natural and historical sites miles away from our building and spend more time digging deep into our little urban neighborhood on the river, getting to know it really well. Ultimately, the way we think about place could change from a resource we use to fuel lessons to a partner in learning that has as much to teach educators as children.

For now, we are just beginning to shift our approach and align place-based education and wellness programs at Cottonwood and we intend to keep our pace slow and open enough to be intentional and avoid overwhelm. Leadership will need to offer logistical support and physical assistance in and out of the classroom. Welcoming plants as co-teachers will take time to develop trust, as all relationships do, as well as enduring commitment from staff to challenge their own thinking and teaching practices. Embedding these changes into our program will require planning over several years, which especially feels daunting in light of so many upended plans over the last two years. Looking to the future, we hold loosely to certainty: we don't exactly know how our programming will unfold.

Future uncertainty is especially true for the Cottonwood in our side yard. Will the city or property owner make a move to cut it down in the spring? In the fall? Will our campaign to save the tree have an impact? Will the tree continue to grow and push through the pavement? A burgeoning awareness of the tree, and concern for it, brings its own emotional risks. In a foreword that Kimmerer recently wrote for an anthology of essays about trees, she reminds us:

Paying attention to the more-than-human world doesn't lead only to amazement; it leads also to acknowledgement of pain. Open and attentive, we see and feel equally the beauty and the wounds, the old growth and the clear-cuts.... Paying attention to suffering sharpens our ability to respond. To be responsible. This, too, is a gift, for when we fall in love with the living world, we cannot be bystanders to its destruction (2001, p. xvi).

The tree's fate is unknown but our students' love and solidarity with it is clear. One class has already planned to create heart-shaped ornaments to hang from the branches, letting everyone in the neighborhood know that this tree has been claimed by children. That it is loved.

What is our tree telling us? What can we learn? One teacher recently walked her class to the river to lead an initial lesson on cottonwood. Partway through, one of the first grade students exclaimed "Oh, cottonwood is a *tree*?" Ensuring that all our students know that cottonwood *is a tree* is something we didn't even know we needed to teach, we didn't know our students didn't know. It is small lessons such as these that we need to listen for, that bring us closer to a restored relationship with each other, ourselves, and the Earth, and lay the groundwork for healing.

References

- Altman, R. (2015). Reclaiming the promise of place: An interview with David Greenwood. *Occasional Paper Series, 33*. <https://educate.bankstreet.edu/occasional-paper-series/vol2015/iss33/2/>
- American School Counseling Association. (n.d.) *The role of the school counselor*. Retrieved February 24, 2022. <https://www.schoolcounselor.org/getmedia/ee8b2e1b-d021-4575-982c-c84402cb2cd2/Role-Statement.pdf>
- Blenkinsop, S. & Beeman, C. (2010). The world as co-teacher: Learning to work with a peerless colleague. *The Trumpeter, 26*(3).
- Bowman, K. (2021). *GrowWild: The Whole-Child, Whole-Family, Nature-Rich Guide to Moving More*. Propriometrics Press.
- Cajete, G. (2000). *Native Science: Natural Laws of Interdependence*. Clear Light Publishers.
- Denton, P., & Kriete, R. (2000). *The first six weeks of school*. Northeast Foundation for Children.
- Djernis D., Lerstrup I., Poulsen D., Stigsdotter U., Dahlgaard J., & O'Toole M. (2019). A systematic review and meta-analysis of nature-based mindfulness: Effects of moving mindfulness training into an outdoor natural setting. *International Journal of Environmental Research and Public Health, 16*(17), 3202. <https://doi.org/10.3390/ijerph16173202>
- Franco, L. S., Shanahan, D. F., & Fuller, R. A. (2017). A review of the benefits of nature experiences: More than meets the eye. *International Journal of Environmental Research and Public Health, 14*(8), 864.. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5580568/#B9-ijerph-14-00864>
- Homan, E. (2018, March 20). How outdoor play can be beneficial for children with special educational needs. *Early Years Alliance*. <https://www.eyalliance.org.uk/how-outdoor-play-can-be-beneficial-children-special-educational-needs>
- Jickling, B., Blenkinsop, S., Morse, M., & Jensen, A. (2018). Wild pedagogies: Six initial touchstones for early childhood environmental educators. *Australian Journal of Environmental*

Education, 34(2), 159–171.

<https://doi.org/10.1017/ae.2018.19>

Ka'ohulani Bruce, S., Egawa, C., Smart, R., Wilson, L., Krohn, E., O'Brien, J., Tovia, O., Northwest Indian Treatment Center staff, DeMiero, N., & Ibabao, S. (2020). *Plant Teachings for Growing Social-Emotional Skills*. Chatwin Books.

King, Jeff. (2012). A critique of Western psychology from an American Indian psychologist. *Native American Culture and the Western Psyche: A Bridge Between*, Spring, 87, 37–59.

Kimmerer, R. W. (2015). *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teaching of Plants*. Milkweed Editions.

Kuo, M. (2015). How might contact with nature promote human health? Promising mechanisms and a possible central pathway. *Frontiers in Psychology*, 5, 1093.
<https://www.frontiersin.org/articles/10.3389/fpsyg.2015.01093/full>

Meiklejohn, J., Phillips, C., Freedman, M.L. et al. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. *Mindfulness* 3, 291–307. <https://doi.org/10.1007/s12671-012-0094-5>

Miller, C. (2019, September 2). *How trauma affected kids in school*.
<https://childmind.org/article/how-trauma-affects-kids-school>

Narvaez, D. F. (2019). 10 indigenous holistic healing practices. *Psychology Today*, February 24.
<https://www.psychologytoday.com/us/blog/moral-landscapes/201902/10-indigenous-holistic-healing-practices>

Narvaez, D. F. (2019). Indigenous psychologies contrast with western psychology. *Psychology Today*. October 20.
<https://www.psychologytoday.com/us/blog/moral-landscapes/201910/indigenous-psychologies-contrast-western-psychology>

Pearson, D. G., & Craig, T. (2014). *The great outdoors? exploring the mental health benefits of Natural Environments*. *Frontiers in Psychology*.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4204431/>

Robbins, Jim. (2020). Ecopsychology: How immersion in nature benefits your health. *Yale Environment* 360, January 9.
<http://e360.yale.edu/features/ecopsychology-how-immersion-in-nature-benefits-your-health>

Rosanbalm, K.D., & Murray, D.W. (2017). *Caregiver co-regulation across development: A practice Brief*. OPRE Brief #2017-80. Office of Planning, Research, and Evaluation, Administration for Children and Families, US. Department of Health and Human Services.

Sheldon-Dean, H. (2021). *Will my child bounce back from the Coronavirus Crisis?* Child Mind Institute, September 15.
<https://childmind.org/article/will-my-child-bounce-back-from-the-coronavirus-crisis/>

Sweet, J. (2021). *Nature plays key role in kids' mental health, massive study confirms*. Verywell Mind, October 7.
<https://www.verywellmind.com/nature-plays-key-role-in-kids-mental-health-study-says-5204813>

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Further information at
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