

Equitably Supporting Schools with Outdoor STEM Learning

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Extending and Expanding Learning Spaces into the Community

As schools in Washington State plan to [reopen safely](#), school and community leaders, as well as staff, are taking steps to re-imagine education and learning spaces. This requires creativity and support to best serve all learners during the pandemic, and outdoor educators are well positioned to augment learning across the state. In addition to being skilled at utilizing alternate spaces for learning (school grounds, neighborhood parks, learning centers, etc.), outdoor educators can provide additional support on the ground with students. This will be an effective way to increase the number of students that can be served while following social distancing guidelines, as well as provide a multitude of other learning benefits and opportunities. At the national level, the North American Association for Environmental Education recently published a document describing their findings¹ on the role environmental and outdoor learning can and does play in the re-opening effort. Many education organizations across the country are exploring options for using outdoor classrooms to create more space for kids to learn safely.^{2,3,4}



2nd Graders from Shelton's Bordeaux Elementary participate a FieldSTEM experience developed in collaboration with the Pacific Education Institute, the Skokomish Tribe and Mason Conservation District (picture taken pre Covid-19).

Washington State is uniquely suited to make this shift, and incorporating outdoor learning as a strategy to meet current challenges strongly supports recent [OSPI guidelines for reopening schools](#),

¹ North American Association for Environmental Education. (2020) eeGuidance for Reopening Schools: Environmental and outdoor education: key to equitably reopening schools.

² Collins, M. A., Dorph, R., Foreman, J., Pande, A., Strang, C., & Young, A. (2020). [A field at risk: The impact of COVID-19 on environmental and outdoor science education: Policy brief](#). Lawrence Hall of Science, University of California, Berkeley; California.

³ Martichoux, Alix. [What will it take to reopen schools in CA? Officials consider slashing class sizes, outdoor learning](#). ABC7 News, 21 May 2020. Accessed 4 June 2020.

⁴ Superville, Denisa. [Outdoor Classrooms in the Age of COVID-19: Pros and Cons](#). Education Week, 1 June 2020. Accessed 4 June 2020.

which suggest maintaining six feet of physical distance and “keep[ing] students outside more, as weather and space permits.” The [OSPI priorities for ESSER funds](#) also encourages districts to “leverage local expertise and provide training.” In addition to joining with school groups to support learning in alternate classroom spaces, outdoor educators can provide high-quality professional learning to other educators, including: virtual learning support, access to quality online materials that complement classroom learning objectives, and assistance in adapting curriculum to transition outdoors. Outdoor educators can also host students in small groups to do hands-on activities (pending COVID-19 restrictions), as well as offer some live, on-line learning experiences with students, such as virtual field trips. Research shows that learning outdoors promotes academic achievement through hands-on, experiential learning and by enhancing the cognitive and emotional processes important for learning.⁵ With a plethora of highly skilled outdoor educators and a temperate fall climate, utilizing outdoor areas to support instruction is a logical choice.

Making this shift can also help address areas of inequity. The pandemic has highlighted social justice issues that cannot be ignored and, as education and learning spaces are re-imagined, the work must be done through an equity lens. Many outdoor learning organizations are well versed in effective ways to center culturally responsive teaching and environmental justice, especially when led by BBIAPIOC outdoor educators. Support from community donors and volunteers can aid in this transition to equitably integrating safe, outdoor education for students in the up-coming school year.



Bremerton School District Teacher, Karen Lippy, leads Green STEM Summit students in group activities. The Summit is a partnership between the Hood Canal Salmon Enhancement Group, PEI and several School Districts in the Region

E3, the state environmental education association, and our members are well positioned to support regional collaboration efforts that leverage the experience and expertise of outdoor and other non-formal educators in the community to support district leaders and teachers in safely and effectively achieving the OSPI guidelines. Together, we can utilize outdoor learning areas and outdoor education staff as a cost-effective method to implement required social distancing measures, provide on-line learning linked to outdoor experiences, and support the mental, emotional, and physical wellbeing of all learners and staff, while also enriching academic learning.

⁵ Children and Nature Network (2016). Infographic: Green Schoolyard can improve academic outcomes. https://www.childrenandnature.org/wp-content/uploads/2017/10/CNN_2016GSY_AcadOut_d7-3.pdf

Supporting Equity, Health and Safety, and Collaborative Funding

Equity

- COVID-19 has increased existing inequities in education. Disparities in access to online learning environments create disparities in academic progress. Providing a safe environment for every student to return to school is a tool to increase equity.
- Learning academic subjects through place-based education is an equity move, allowing teachers to more effectively include students' cultural assets and identities into their learning, increasing engagement and thereby increasing achievement.

Health and Safety

- Outdoor learning spaces offer increased ventilation and make it easier to fulfill physical distancing requirements.
- Simple outdoor spaces on school grounds and in nearby parks that allow for outdoor rotations of students at each school can provide options for physical distancing and reduce the burden on indoor spaces.
- Schools and partners must work to ensure every child feels safe and is equipped to safely participate in outdoor activities. This may include working with the school nurse to address asthma, allergies, and other medical issues as well as working with organizations that can provide proper outdoor clothing.
- Individuals may be experiencing stress and trauma associated with COVID-19. Natural outdoor areas can provide calming spaces to unwind and relax. Outdoor activities and green spaces can provide opportunities for students to practice social and emotional learning skills to help manage stress such as: self-reflection or communicating about emotions.⁶ Natural areas enhance feelings of competence and increase supportive social relationships that help build resilience.⁷ Green schoolyards can reduce aggression and discipline problems.^{8,9} Gardening at school helps students feel proud, responsible & confident.¹⁰ Outdoor learning brings benefits to the whole child.



Selah High School Football Team participates in leadership activities at Cispus Environmental Learning Center

⁶ Children and Nature Network (2016). Infographic: Green Schoolyard can provide mental health benefits.

https://www.childrenandnature.org/wp-content/uploads/2015/03/CNN_2016GSY_MentalHlth_d5.pdf

⁷ Chawla et al. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health Place*, 28, 1–13.

⁸ Bell & Dymont (2008). Grounds for health: The intersection of green school grounds and health-promoting schools. *Environ Educ Res*, 14(1), 77-90.

⁹ Nedovic & Morrissey (2013). Calm, active and focused: Children's responses to an organic outdoor learning environment. *Learn Environ Res*, 16(2), 281–295.

¹⁰ Chawla et al. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health Place*, 28, 1–13.

A Collaborative Funding Model

- Increased collaboration provides the opportunity to leverage the fundraising expertise and experience of community-based organizations (CBOs).¹¹ Partnering can connect donor bases to students in need and maximize community support as Washington State struggles with a budget deficit. Funding sectors to consider:
 - Corporate donations of gear or funding (Outdoor Retailers).
 - Federal and State Funds for COVID-19 response and preparation (CARES act ESSER funds).
 - Public Schools Foundation
 - Community Foundation
 - Local banks and credit unions
- Costs to adapt school infrastructure may be cost prohibitive. Outdoor learning spaces can be a less costly option to provide learning space for schools. Areas such as logs under trees, decks near ponds with seating, or canopies erected over lawns or asphalt with seating could expand the spaces available. Local parks, museums, zoos, and learning centers may have additional space that can be leveraged.
- The outdoor education workforce is a resource for providing additional face to face capacity or for special projects to create teaching materials that engage students in outdoor explorations. The regional outdoor education community is eager to continue partnering with schools to support student learning outdoors.

Potential Models to Support Accessible and Equitable Outdoor Learning

Teacher professional learning and ongoing support (virtual or in-person) and enhancement of remote/virtual learning outdoors

Overview of model:

Teachers attend virtual and in-person workshops and receive ongoing support. Support options:

- partnered with an Outdoor Educator to collaborate on lesson development (out of the field)
- partnered with an Outdoor Educator to support outdoor instruction
- Outdoor educators develop online materials to support learning such as virtual field tours, video lessons that engage students in outdoor learning, etc.

Outdoor childcare and support for virtual learning

Overview of model:

¹¹ We are using a broad definition of Community Based Organizations (CBOs), including non-profits, tribal institutions, agencies and businesses supporting schools.

Half the school is 'On' with traditional learning, this model involves CBO support for the other half of the school with activities, [outdoor childcare](#). Students receive full day of instructional support on-site at school to ensure access to childcare, food, and digital learning

- o ½ students with teacher in classroom instruction
- o ½ students in outdoor activities facilitated by CBOs or in labs to receive digital learning support

Community supported outdoor enrichment

Overview of model:

This model involves partnerships with CBOs to offer specials/enrichment (art, library, garden, physical education, etc.) to augment traditional learning and could be offered for the half of the school that is not 'On' with traditional learning.

- Outdoor education
- Health and wellness—outside time for stress reduction, social emotional learning, etc. (supported by youth mentorship agencies, dispute resolution groups, ie. Animals as Natural Therapy etc.)
- Support for homeschooled youth or those who are opting out of school (up to 20% of students by one district's estimate).
- Stewardship—"adopt a park" model where kids do stewardship on site at school or nearby park (supported by parks and similar orgs)
- Art & creativity—nature art and journaling (supported by arts-based orgs)
- Literacy/library/language arts—outside reading, journaling time (supported by literacy orgs, libraries, etc.)

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