

Leavenworth Students Thrive in Shanda Holm's Outdoor Classroom

When 36 inches of snow fell in Leavenworth in less than 24 hours this January, most schools shut down for days and residents hunkered down indoors.

One teacher, however, had a different plan. Seizing the opportunity for unlimited free building material, Shanda Holm met her students on the first Monday after the storm with an assignment: design and build a new classroom out of snow.

“We took a deep dive into engineering design,” says Holm, a teacher with Home Link Education, a Cascade School District K-12 program that blends home instruction with the classroom experiences. “They did a design charrette to figure out what to build.”

To create a safe and effective structure, Holm's fourth and fifth-grade students had to consider multiple factors such as what diameter would allow everyone to maintain social distance, how to keep the wind out, where to put the walls, how to pull and hold the correct amount and direction of tension to hold the tarp roof in place. “They got the diameter right and it worked,” Holm says. “We were socially distanced, and it was the perfect size.”

This type of applied science is common in Holm's program. Through Home Link, she works with 26 students ranging in age from fourth through eighth grade, broken into three groups. One group has selected a fully on-line program. In the other two, parents provide home instruction with the support of progress report monitoring and elective classes at school. After Holm moved the program outside last year, parents overwhelmingly requested that the Integrated Science Outdoor block continue. Holm teaches the outdoor class from 10:00 a.m.



to 2:30 p.m. two days a week and teaches Writing, Social Studies, Art, and a Rotating Units Class indoors.

She spends considerable time on teambuilding and social and emotional learning, especially in the beginning. “Being outside is very different,” Holm points out. “We work a lot on social dynamics because you have to build a team that can mitigate hazards together.”

Those efforts pay off when her nine and ten-year old students can assume roles in a design team, understand how to collaborate, execute a project and conduct a substantive debrief. “They’re completely engaged,” she says. “At the end of the day they built the classroom, they were so proud of themselves and ready to go apply what they had learned at home.”



Holm has an extensive background in outdoor learning. Her father was a pioneering educator who helped to transform Proctor Academy, a historic boarding and day school in Andover, New Hampshire, into an experiential education mecca. New programs during his tenure included Wilderness Orientation, Ocean Classroom, Mountain Classroom and language immersion programs in Spain, Morocco, and France. Today, the school is home to 370 students and is a national leader in experiential learning and academic support. Only after graduating from Proctor in 1989 did Holm realize how unusual her experience was. “It was a phenomenal education,” she says. “I started asking, ‘Why is this not available to everyone?’”

In the years since, she has been an instructor with the National Outdoor Leadership School (NOLS), the Power of Hope, and the Oregon Museum of Science and Industry field schools and helped found both a nature-based science immersion preschool program and a nonprofit for adults with developmental differences. After stepping down from the role of Executive Director, she took a year to homeschool her 10-year-old daughter, which is how she connected with Home Link.

In 2021, Holm began attending workshops from Pacific Education Institute (PEI), an Olympia-based nonprofit that provides outdoor-based, locally relevant STEM professional development for teachers statewide in collaboration with regional conservation groups, nonprofits, and natural resource companies. One of the first PEI workshops Holm attended was a solutions-oriented exploration of wildfire ecology and its relationship to climate change.

Even though Leavenworth is surrounded by forest and experiences catastrophic wildfires nearly every summer, most students learn little about their mechanics and prevention. “The kids know when school gets canceled because of air quality, but they aren’t learning ways that they can affect change,” says PEI Central Washington FieldSTEM Coordinator Megan Rivard. “Now two days a week, Shanda does a highly structured fire ecology course with very young students who are learning some serious fire and climate science.”

In keeping with PEI’s emphasis on community partners, Holm’s students have visited Tierra Learning Center and its biochar retort, and met with a former Boeing engineer who can run his vehicle on syngas from pinecones. “The people she has lined up to talk to the kids about wildfire ecology are very impressive,” Rivard says. “It’s all about how humans are both part of the problem and part of the solution to the problem. She really took PEI’s materials and ran with them.”

Holm credits Rivard and PEI workshops with helping her integrate standards into the outdoor work she loves. She appreciates the applied learning aspect of PEI’s framework. “The standards are very content-rich,” Holm notes. “PEI’s classes demonstrate a deeper understanding so that you can get to the applied portion of them, which is the most important. The focus is on doing a deep exploration of a particular topic where you’re getting hands-on experience and making observations.”

Rivard believes Holm’s program could serve as a model for other educators, especially since outdoors is one of the safest places to be as COVID-19 continues its rampage. “The way she’s managing her students outdoors could easily become a learning lab,” Rivard maintains.

Aside from meeting standards, Holm’s approach is fulfilling the human need for connection with nature, which is harder to quantify. “Without a deep understanding and thankfulness for the web of relationships that supports us, those things will disappear,” she says. “Part of the magic in experiential education is knowing that we can look to, and be curious about, what is happening in the world to help guide the direction of our learning. I see my students facing the challenge of a day that’s freezing cold and raining, and when the next day is sunny, and I see the joy of experiencing that moment. They are making that connection.”

