Sustainability Course Pilot Gets Students Focused on Climate Change Solutions

As she wound up a nine-week pilot program focused on sustainable solutions to climate change, Elma High School Environmental Studies teacher Ariel Finfrock had an observation. “My students are verbalizing how interesting they find these topics and appreciating that they have the space to talk about them,” she says. “I’m seeing that they’re not often given the opportunity to have these kinds of big picture conversations.”

The pilot was the second half of a semester-long Sustainability Course developed by three Pacific Education Institute (PEI) staff members. The five-unit course focused on refining students’ critical and creative thinking around the complexities of climate change, sustainability, and United Nations Sustainability Development Goals (SDGs). Funding to develop the course and run the pilot came from the Connell Family Fund, a private foundation.

Before the launch, East Sound FieldSTEM Coordinators Molly Griffiths and Tressa Arbow and faculty Michelle Townshend worked virtually with a cohort of six teaches from around Washington State to familiarize them with the curriculum, solicit feedback and make revisions. In February, four of the six teachers began implementing the program.

Students analyzed climate solution tradeoffs in terms of people, planet and prosperity. As part of their research, they read an interview with award-winning Seattle Times journalist Lynda Mapes, author of the *Hostile Waters* article series on the endangered southern resident orcas’ struggle to survive.

The course also included a media literacy component. Students explored *The Evolution of Media* from the University of Minnesota and considered how different types of media influence our knowledge and ideas about the environment and sustainability. To understand different perspectives, they watched *Bring Tokitae Home!* a video on the Lummi Nation’s efforts to relocate a captured orca from the Miami Seaquarium to the Salish Sea. “They explored the science behind a solution and then thought about how to create a story or solution-based message

that is going to get that science across in an engaging way," says Griffiths. "We talked about the art of storytelling."

In the final unit, students examined the role of food waste in exacerbating climate change and how food waste reduction connects to United Nations Sustainable Development Goals. They viewed the video 'Reclaiming the Honorable Harvest,' from the TEDx Sitka conference featuring Dr. Robin Wall Kimmerer, Distinguished Teaching Professor and Director at SUNY's Center for Native Peoples and the Environment. The program culminates with student presentations of a climate change solution that includes consideration of everything they learned.

Throughout the pilot, teachers submitted weekly feedback surveys and PEI faculty Michelle Townshend provided guidance and support. In April, the team conducted a debrief to assess overall effectiveness and which individual components were engaging for students. The pilot was not yet complete at that point, with student presentations still to come but the teachers had implemented enough units to offer input.

Erica Waggoner teaches science at Lake Quinault High School on the Olympic Peninsula. "My students really liked the videos and interview with Linda Mapes," she notes. "They've also been enjoying digging into the Sustainable Development Goals."

Cle Elum/Roslyn High School Agriculture teacher Mitch Bell has had the same students for three years. He observed something different about their levels of engagement in this course. "We focused on food waste and their projects were probably the best they've ever done," he says. "The ability for them to do a project using a social media platform made a big difference. We had a lot of Tik Tok and Instagram Reels stories and they got excited about seeing what things would look like."

Bell also noticed a shift in how students approached the Sustainable Development Goals. Every student had to pick one goal to explore and initially, most chose goals that seemed like the least work to analyze. "The first time, they all picked whatever they thought was easiest," he explains,

“but now they’re realizing these goals are relevant to their daily lives. I’m having them go back and do more research before they make their final choice.”

The TEDx video made an impression, according to Finfrock, particularly through the focus on connecting sustainability to Indigenous Ways of Knowing and reframing sustainability towards reciprocity and human responsibility. “When we watched the Robin Wall Kimmerer video, I saw my students’ faces and heard their reflections,” she says. “Encountering that worldview expands the way they think about these concepts. It’s extremely valuable and powerful.”

Bell already has ideas about how to make the curriculum more experiential. In normal years, PEI’s model is highly hands-on, but lessons have been modified to adapt to the restrictions imposed because of the COVID-19 pandemic. “It’s been a double-edged sword,” says Bell. “This is the most content and enriching science learning that my students have ever done, but the tradeoff was that it involved research rather than a lab. I found an app that allowed for a quick, easy way for the kids to have some hands-on learning prior to the reading that helped them get a little more engaged.”

Once the project wraps, PEI’s team will finalize the curriculum for high school teachers, with plans to pilot the course with middle school teachers in the fall. Those who participated in the spring pilot program will implement the revised version with a new set of students next year. The eventual goal is for the program to become fully adopted in secondary schools throughout Washington State.