

When Climate Science Meets Dual Language

by Heidi Smith



At the Dual Language Food Waste workshop, teachers gained tools and resources to deliver climate science lessons in Spanish.

Dora Kemp is passionate about the subject of food waste. At Sheridan Elementary School in Tacoma where she teaches a dual language kindergarten class, she observed how much food went into the garbage each day but when Kemp attempted to interest her students in the topic, her message was usually ignored. “I was asking them over and over, ‘Are you going to eat that or throw it away?’” she says.

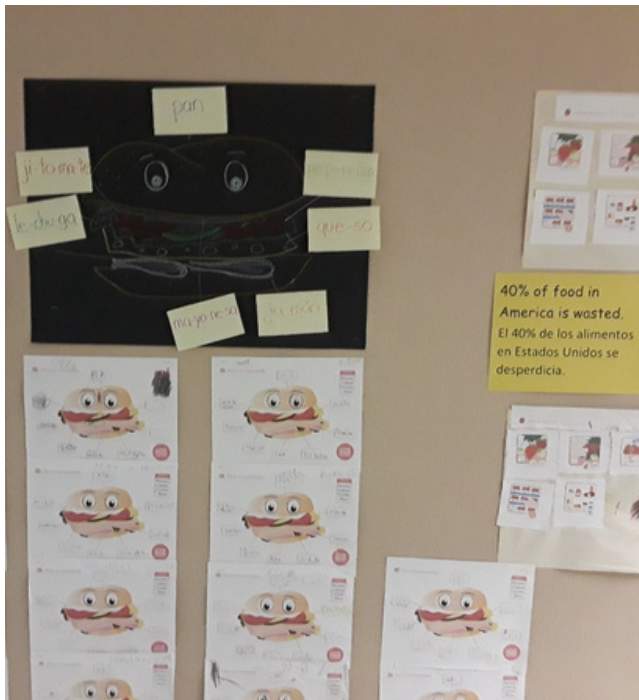
When Kemp discovered PEI’s Spanish Language Food Waste Solutions Oriented Learning Storyline (SOLS) and began using it in her class, things started to change. Students began weighing their leftovers at mealtimes and enthusiastically participating in activities designed to demonstrate how food waste contributes to climate change.

“It was an excellent and rich resource to implement with my kids,” she says. “The learning standards were already there so I didn’t have to look for them. The kids keep asking me, ‘When are we going to do another food waste activity?’ It made science fun and it was easy for students to engage. This has inspired me to take more classes with PEI.”

Kemp’s class uses Spanish 70% of the time and English the other 30%. Like many dual language teachers, she has difficulty in finding quality materials for teachers in Spanish, even when student materials exist.

It's a common problem, according to PEI's Multicultural Program Coordinator Lourdes Flores. "Often, dual language teachers have to use their own time to translate curriculum," she notes. "We have to look for resources whereas on the English side, the resources are already there. Sometimes teachers will default to teaching in English just because it's so much easier."

Flores first encountered PEI while teaching a 5th-grade dual language class in the Shelton School District and has seen firsthand how having materials available in Spanish impacts teachers and students. The district had fully embraced the FieldSTEM model and teachers paired up to facilitate two field experiences every year, with a community partner for each grade.



Food waste storyline materials in English and Spanish

"It was a fabulous program," she says. "But we wanted to be able to explain many of these things in Spanish and the materials didn't exist. We asked the district if we could get things translated and they provided the funding, so that was great. All of the teachers wanted those materials."

When she joined PEI in 2020, a set of K-3 schoolyard investigations had been translated into Spanish. Since then, Flores has worked with a team to translate four Solutions Oriented Storylines, and in April a new set of translated English Language Arts (ELA) Performance Tasks will be available for educators.

During dual language workshops, teachers enjoy listening and participating in their native language. Students also benefit when teachers are able to use premade materials and thereby regain the time they would have had to spend on translation. "The immediate result is that you can spend more time directly with the lesson instead of preparing for so long because you need to look for resources," Flores explains. "You can spend more time assessing students."

One key message she wants dual language teachers to understand is that using PEI's resources will not create more work for them but rather supplement what they're doing with engaging, adaptable resources. As an added benefit, PEI's materials provide consistent Spanish vocabulary for scientific terms across grade levels.

“Teachers from different parts of Central and South America use different words for the same term,” says Flores. “It’s important to be consistent so that whatever word students learn in second grade, they hear the same word again in fourth grade.”

Flores and PEI’s regional coordinators reach out directly to dual language schools around the state and invite administrators to attend FieldSTEM leadership meetings to help them understand how PEI integrates dual language and STEM. Recently she’s seen increased interest from community partners such as Mason Conservation District and Thurston Together that want to expand the access to their programs.

Currently, the Office of the Superintendent of Public Instruction is asking the state legislature for funds to make dual language education accessible to all students statewide by 2040. Flores believes that beginning with elementary school programs and adding grade levels each year will make those efforts sustainable. “I hope to see well-prepared dual language programs all the way through high school,” she says. “Ideally, we will be there from the beginning, starting in elementary.”

Flores is available to work with teachers, schools and school districts and to provide dual language workshops. To learn more, contact her at lflores@pacificeducationinstitute.org

Tiempo estimado requerido para implementar este caso: 3 a 4 semanas

NGSS PE:

K-ESS3-3 Comunicar soluciones que reduzcan el impacto de los humanos en la tierra, el agua, el aire y / u otros seres vivos en el entorno local.

K-ESS3-2 Hacer preguntas para obtener información sobre el propósito del pronóstico del tiempo para prepararse y responder al clima severo.

Práctica de ciencia e ingeniería (SEP)	Idea central disciplinaria (DCI)	Concepto transversal (CCC)
<p>Obtención, evaluación y comunicación de información</p> <p>Comunicar soluciones con otros en forma oral y / o escrita utilizando modelos y / o dibujos que brinden detalles sobre ideas científicas.</p> <p>Hacer preguntas y definir problemas Hacer preguntas y definir problemas en los grados K-2 se basa en experiencias previas y progresa a preguntas descriptivas simples que se pueden evaluar.</p> <ul style="list-style-type: none"> Hacer preguntas basadas en observaciones para encontrar más información sobre el mundo diseñado. <p>Obtención, evaluación y comunicación de información</p> <p>La obtención, evaluación y comunicación de información en K – 2 se basa en experiencias previas y utiliza observaciones y textos para comunicar información nueva.</p> <ul style="list-style-type: none"> Leer textos apropiados para su grado y / o use medios para obtener información científica para describir patrones en el mundo natural. 	<p>ESS3.C Impactos humanos en los sistemas vivos de la Tierra</p> <p>Las cosas que las personas hacen para vivir cómodamente pueden afectar el mundo que las rodea. Pero pueden tomar decisiones que reduzcan sus impactos en la tierra, el agua, el aire y otros seres vivos.</p> <p>ESS3.B: Peligros naturales</p> <p>Algunos tipos de clima severo son más probables que otros en una región determinada. Los meteorólogos pronostican el clima severo para que las comunidades puedan prepararse y responder a estos eventos.</p>	<p>Causas y efecto</p> <p>Los eventos tienen causas que generan patrones observables.</p> <p>Conexiones con la ingeniería, la tecnología y las aplicaciones de la ciencia.</p> <p>Interdependencia de la ciencia, la ingeniería y la tecnología</p> <ul style="list-style-type: none"> La gente encuentra preguntas sobre el mundo natural todos los días. <p>Influencia de la ingeniería, la tecnología y la ciencia en la sociedad y el mundo natural</p> <ul style="list-style-type: none"> Las personas dependen de diversas tecnologías en sus vidas; La vida humana sería muy diferente sin la tecnología.

PEI’s Dual Language Food Waste storyline meets Next Generation Science Standards while engaging students.