

Exploring the nature of learning

By Deborah Sullivan Brennan | 9:58 a.m. Jan. 23, 2016



January 6, 2016_Oceanside, California_USA_| Portrait of Su Scott (cq), a science educator. (Photo taken in the Oceanside office studio). |_Mandatory Photo Credit: Photo by Charlie Neuman/San Diego Union-Tribune/©2016 San Diego Union-Tribune, LLC *San Diego Union-Tribune*

For years, biology teacher Su Scott guided elementary and middle school students through labs and lessons, striving to bring science textbooks to life through hands-on experiments and field trips.

Over the years, she brought students to the San Diego Zoo and Safari Park, to local biotech firms, out on a marine lab, and even on weeklong trips to the Florida Keys and Costa Rica, where they swam with dolphins and ziplined over a rainforest.

Scott retired from Rincon Middle School in Escondido last year after four decades of teaching, but instead of taking it easy, she has stepped up her involvement in outdoor education. Her new projects range from developing a three-day watershed workshop in which students can learn about the San Dieguito River to leading a regional conference for science educators.

A San Diego native, Scott graduated from Patrick Henry High School and studied at the University of Redlands, San Diego State University and UC San Diego. She now lives in Escondido within a stone's throw of Lake Hodges and spends much of her free time outdoors, hiking, kayaking and travelling. She discusses why kids need to see, touch and investigate the natural world.

Q: Please describe what you do.

A: I used to teach science in the classroom. Now I am lucky enough to teach science outside, where it really happens. I've helped kids learn adaptations in Elfin Forest, soil hydrology in San Dieguito Lagoon, Kumeyaay culture in San Elijo, and ecosystems in Daley Ranch. I've helped teachers gain confidence in taking their students outdoors through state and local presentations, I'm chair of an upcoming [San Diego Science Education Conference \(https://2016sdsec.wordpress.com/\)](https://2016sdsec.wordpress.com/) in April for all science educators, I work in organizations to get kids outside, and I am completing my certificate as a California State Naturalist. I like to learn new things as much as I like to help others learn them.

Q: How did you become interested in science?

A: I have always had a natural curiosity about the world around us. Science gave me a process to explore that world and a method to seek answers to my questions.

Q: How is science education changing with the focus on STEM (science, technology, engineering and math) concepts, and the Next Generation Science Standards?

A: I have been teaching science for a long time. I love it because I can let the kids discover concepts by experimenting, and it's fun to watch their excitement in learning. The new science standards really help the students do just that. The focus is on understanding science concepts using scientific practices, really "doing" science rather than memorizing facts or just reading about them. Let's face it; we have access to all kinds of facts in the palm of our hand with our cell phone. But where is the understanding that backs up the concepts? Where is the evidence that substantiates the claim? These new standards get kids to ask questions, try different solutions, and back up their claims with evidence.

Q: Tell us about the new Watershed Explorers Program with the [San Dieguito River Conservancy](http://sandieguitorivervalleyconservancy.org/sdrvc1_welcome1.html) (http://sandieguitorivervalleyconservancy.org/sdrvc1_welcome1.html), that launches in February?

A: What a fun project! The purpose of the Watershed Explorers Program is to provide an opportunity for under-served students to get outdoors and learn what a watershed is and why its health is important for preserving wildlife and plants, supporting water, and keeping water clean. The program covers the 55 miles of the watershed in three full days traveling in specially equipped 15 passenger vans. At Volcan Mountain, students will hike and get a panoramic view of the whole watershed. Wildlife will be the focus at Lake Sutherland, where the girls will learn tracking, citizen science and wildlife camera traps. The history and culture of the watershed will be the focus of the stops at the San Diego Archeology Center and the Sikes Adobe Historic Farmstead. The last day will be spent the San Dieguito Lagoon to study wetlands and water quality. We are hoping to offer this program to many schools in our watershed.

Q: Why is it important to get kids outside?

A: Research shows that children are healthier, happier and smarter when they learn in nature and play outdoors! Nature is an outdoor classroom where children experience science, math, language, and group learning by observing, touching, listening, telling, and doing. When children connect with nature, they also connect with each other, their families and the community as they learn that they are part of something bigger than themselves. Nature is the ideal "play-escape" for climbing, running, pondering and wondering that are so essential for healthy child development.

Q: What is "nature deficit disorder," and what can we do about it?

A: Local author Richard Louv coined the phrase to serve as a description of the human costs of being separated from nature. Children are spending most of their time in front of electronic media, in organized activities, and in neighborhoods with few parks and open spaces. Our goal should be a world in which all children play, learn and grow with nature in their everyday lives.

Q: How can people participate in citizen science?

A: Citizen science is a great way to get families outside to practice science. Families can participate in doing real research and have a lot of fun doing it. The apps on your cell phone make it so easy now: [iNaturalist](http://www.inaturalist.org/) (<http://www.inaturalist.org/>), [What's Invasive](http://www.whatsinvasive.org/) (<http://www.whatsinvasive.org/>), [Creek Watch](http://www.creekwatch.org/) (<http://www.creekwatch.org/>), [Project Noah](http://www.projectnoah.org/) (<http://www.projectnoah.org/>), Nature's Notebook, [NatureFind](https://www.naturefind.com/) (<https://www.naturefind.com/>), [Journey North](https://www.learner.org/jnorth/) (<https://www.learner.org/jnorth/>), [School of Ants](http://www.schoolofants.org/) (<http://www.schoolofants.org/>), and the [Lost Ladybug Project](http://lostladybug.org/) (<http://lostladybug.org/>) are just a few that are fun and help scientists collect data. Go out and try one.

Q: What's the best advice you ever received?

A: Always ask questions.

Q: What is one thing people would be surprised to find out about you?

A: I was very shy and quiet as a kid. My friends still don't believe it.

Q: Please describe your ideal San Diego weekend.

A: Hiking our many San Diego trails, kayaking the bay at sunset, riding my bike around town, exploring someplace new, eating at an interesting little restaurant, and spending time with family and friends.

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