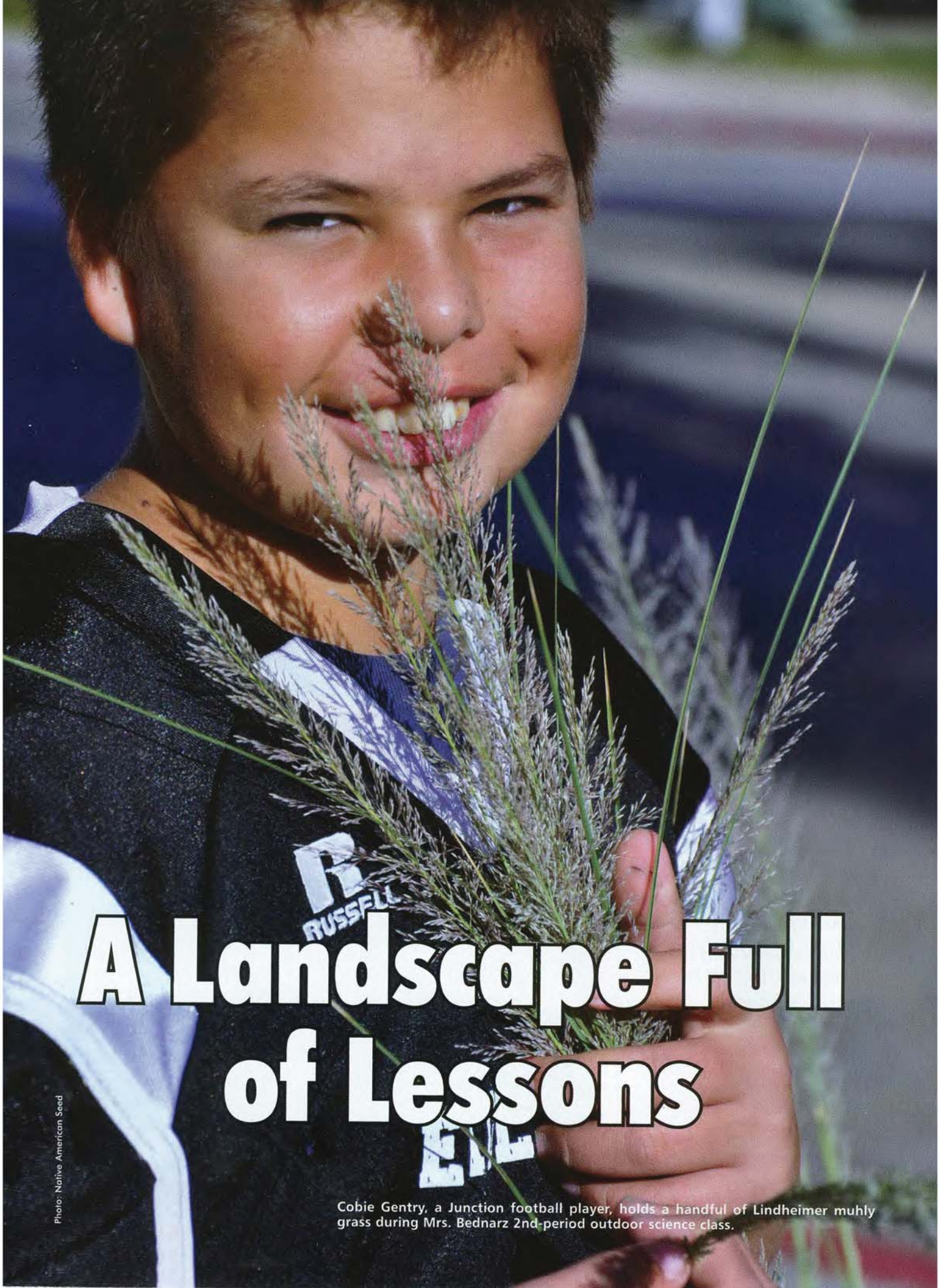

A Landscape Full of Lessons

Photo: Native American Seed

Cobie Gentry, a Junction football player, holds a handful of Lindheimer muhly grass during Mrs. Bednarz 2nd-period outdoor science class.

Exceptional schoolteachers rarely get the credit they deserve. It is one of life's paradoxes that teaching school, despite the profoundly influential nature of the work, is one of those professions for which recognition for a job well done customarily stays hidden inside the hearts and minds of the teachers' students. Thanks to a dedicated group in Junction, Texas, however, one such remarkable teacher has a lasting public tribute that not only recognizes her contributions but also by its very nature vibrantly continues the lessons she worked so diligently to impart.

Opal B. Roberts taught English at Junction Middle School in Junction, located on the western edge of Texas Hill Country, for more than 30 years. She was known for "setting high expectations with clear objectives for her students, as well as engaging them from every angle with innovative techniques," said Scott Richardson, who taught at the same school with Opal and regarded her as his mentor. "Most of all, Opal was warm, accessible, enthusiastic and caring with every student and cohort."

Known for her dangling earrings and wholehearted hugs, Opal especially loved getting her students outdoors, providing them with hands-on experience in environmental awareness and fostering an appreciation of and respect for nature. Along with Richardson, she developed a series of field trips to South Llano River State Park, where the kids participated in activities (such as making seed balls, removing invasive species, planting native grasses) designed to teach them how to be good stewards of the land. "The meaning of this may not hit them until they're adults," Opal was quoted as saying in a 1998 article for *Texas Parks and Wildlife* magazine by Sheryl Smith-Rodgers. "But you have to put something of yourself into your community. Nature is not here for the taking."

When Opal Roberts died in August 2008, Richardson decided to do something to make sure that the wise lessons she taught were not forgotten. The Opal B. Roberts Landscape of Hopes and Dreams at the school where Opal spent her professional career and touched hundreds of lives, now stands as a living memorial to this very special teacher and a reminder to all of us that we are responsible for nurturing and protecting our environment.

How the landscape came about is also a lesson in community involvement and cooperation. Richardson approached JISD Principal Melissa Hoggett with the idea of planting a couple of trees in Opal's memory. Hoggett enthusiastically encouraged him to do more than that, and told Richardson that the Superintendant was interested in rainwater harvesting. This prompted Richardson to contact his friend, Master Naturalist Advisor and AgriLife Extension Agent Billy Kniffen, perhaps Texas' premier rainwater harvesting specialist. Kniffen agreed to design a 100-yard landscape in front of the middle school and an adjoining rock gymnasium that included a passive rainwater collection system. The design included seven depressions, called rain gardens, which would serve as catchment

Photo: Billy Kniffen

Before the renovation, rainwater from the roof of the school would flood the plain, boring landscape. Runoff went to the street, taking with it oil from vehicles on the road, ending up in Llano River.

Photo: Scott Richardson

After the rain garden was installed, the landscape was filled with year-round interest, textures, colors and became an outdoor classroom. Now, rain is filtered by deep-rooted native plants and absorbed into the ground, helping to recharge the aquifers.

BY SUZANNE LABRY
Contributing Writer

Photo: Billy Kniffen

Community volunteers (left to right) Trevor Brawley, Garrett Murff, Aaron Brawley and Shawn Murff shape soil to create swales/depressions to capture rainwater for deep-rooted native plants.

Photo: Scott Richardson

The front entrance and most visible place on campus (above) provide responsibly beautiful landscaping for butterflies, ladybugs and songbirds along with quiet seating areas for passersby. Scott Richardson (below), a retired school teacher and community leader, shares a history lesson with students about how land in the Hill Country used to support a wide diversity of native plants.

Photo: Native American Seed

basins for rainwater coming out of the gutter downspouts from the school roof. Planted with appropriate native and adapted plants, the rain gardens would collect and hold the rain until it could be absorbed naturally into the ground.

Kniffen's design was presented to school administrators, staff, former students and friends of Opal Roberts. The design was approved and construction of the project began. A large existing rock patio in front of the school was removed, with the rocks being saved to form terraces in the new landscape. The rainwater gardens required excavation. Pathways — following routes where students customarily walked — were laid out with granite gravel. A four-inch layer of mulch was laid down in all the planting beds. Drip irrigation with emitters for each of the 400-plus plants was installed. Middle school students and volunteers planted the native and adapted plants, many of which were donated.

Master Naturalists provided backhoes and skid loaders. Citizens donated granite gravel for the pathways. The local Sheriffs' Department and Kimble County provided the labor and equipment to produce the 80 yards of mulch needed for the project. Bill Neiman of Native American Seed (see "The Last Piece of the Puzzle," *Texas Gardener,* March/April 2011) donated seeds, plants and expertise. The school administration, former and current students and faculty, various Kimble County agencies, friends of Opal's, and local businesses all volunteered their time, their talent and their resources. Funding for the project came from donations to the school and to Opal's family in her memory in equal amounts. By the time the landscape was finished, more than 1,000 volunteer hours had been tallied. It truly was a collaborative effort.

The Opal B. Roberts Landscape of Hope and Dreams was dedicated on January 18, 2010. Since that time, the U.S. Environmental Protection Agency has given it a "WaterSense Landscape" designation, one of only three landscapes in the entire state to be so honored.

The entire community has taken pride in the landscape. Litter at the school has decreased and the students take care to walk only on the pathways. One project implemented at the Middle School was to assign plants in the landscape to students, who were then responsible for learning about them as a way of creating ownership and involvement — one of the lessons learned from Opal Roberts.

"One of our goals with this design was to provide an example to the students and to the community that it is possible to take what we have naturally in this area and create something beautiful, functional and sustainable," said Billy Kniffen. "We wanted to encourage everyone to be aware that we need to conserve water and to be good stewards of the land and our natural resources."

When asked what lessons he could pass along to others from the project, Scott Richardson provided a list of points to remember:

- Involve as many as you can, so all feel ownership.
- Plan and organize.
- Identify problems and issues.
- Look at where the water goes.
- Capture as much water as you can.
- Go native, mulch and drip.
- Diversity is best.

You're never finished because what you create will change and it must always be maintained.

"A magical thing to me about the landscape is the way that it keeps evolving on its own," said Richardson. "For example, we planted some Maximilian's sunflower (*Helianthus maximilianii*) and gayfeather (*Lyatris*), and they have spread all over the place. Apparently there were some desert willow (*Chilopsis linearis*) branches in the mulch that we put down because we have new desert willows popping up where we didn't plant them. There must have been some prairie phlox (*Polemoniaceae*) in the mulch as well because we didn't plant any of that — it just appeared. It's been a fascinating thing to watch."

Doubtless, Opal Roberts would agree. The landscape created in her honor at the school where she taught could hardly be a more fitting tribute to a teacher whose goal was to inspire others not only to appreciate and respect the natural world but to be fascinated by it as well. **TG**

RAINWATER COLLECTION

What is the difference between active and passive rainwater collection systems?

Active rainwater collection systems actively collect, filter, store and reuse rainwater. Storage usually occurs in tanks and may incorporate components such as pumps and filters. These extra components require electricity and regular maintenance.

Passive rainwater collection systems include no mechanical methods of collecting, cleaning and storing rainwater. Catchment areas (such as swales) are created to contain rainwater until it can be absorbed naturally into the land, thus preventing runoff. Passive systems require no electricity and can be relatively inexpensive to maintain.

Scott Richardson shows a student the 'turkey foot' seed head of big bluestem, a tall grass prairie plant that used to support thousands of buffalo in Texas. Now it only lives on well-stewarded land.