

# The University of North Texas Science Education Research Lab

## TEEA 2016 Winner: Water Conservation



*Success of environmental education measured in millions of gallons of water conserved.*

For a decade the City of Dallas' Environmental Education Initiative (EEI) has brought together the city's Water Conservation Division and Sanitation Department to develop school and general outreach programs that engage and inspire their residents to make informed decisions to be environmentally protective. When the city departments sought to expand their impact in the community, they considered forming partnerships outside their own personnel.

That is where Dr. Rudi Thompson and students with the Science Education Research Lab (SERL) at the University of North Texas stepped in. Dr. Thompson's experience in curriculum development combined with a research-driven approach were certainly advantages to expanding environmental education for students in Dallas—along with the status of the students working with Dr. Thompson as certified educators currently working on advanced degrees.

Simple dissemination of information to a population does not necessarily meet the mission of providing education. Ability to measure the effectiveness of the water conservation program was a priority.

The EEI was created to address the citywide goal of conservation of resources—most notably water, one of Texas' most important resources. The SERL seeks to use tactical education techniques to reach learners of all ages, empowering them to make behavioral changes that are passed on to family and friends. The EEI has four main educational components: the elementary hands-on lessons taught by certified teachers, the middle school "Museum on Wheels" modules, the high school conservation and community-outreach programs, and the professional-development program for

teachers. All four educational programs are designed to equip students and teachers with applicable knowledge about water conservation and what needs to be done to shift our habits toward promoting a sustainable future.

The EEI is unique in that it does not just end with outreach and education. The SERL focuses on quantitative follow-up research to track the efficacy of its programs. From data on water use in areas where the elementary school programs were implemented, SERL found a mean reduction of more than 500 gallons per month in single-family homes. This equates to a reduction of over 6,000 gallons per year for each home and a total saving of over 22 million gallons of water per year for the entire target area.

In all, including the educational and community-based outreach, the EEI has delivered direct conservation awareness to more than 200,000 Dallas residents. These outreach programs, combined with quantitative research by SERL, demonstrate the effectiveness of the EEI. It is the innovative relationship between the City of Dallas and the University of North Texas that has created a paradigm shift to conservation behaviors, which is becoming a valuable tool to combat water needs for all of Texas for generations to come.