WATER We Learning? Water Conservation!
Examining Fourth Grade Students Awareness, Behavior, and Knowledge

Presenter: Loriann Whitman
Stephen F. Austin State University College of Education

Faculty Sponsors: Vicki Thomas, Alan Sowards, Tingting Xu
Undergraduate Research Conference April 14th, 2015

Purpose:
The goal for this research was to examine if students would become more aware, exhibit more positive conservation behaviors, and possess more knowledge regarding water and conservation after a series of in-school lessons on water conservation and resources. This study examined two fourth grade classes at an Eastern Texas Charter School.

Method:
The teacher candidate designed a series of in-classroom lessons and activities for the students to explore water conservation and resources. The lessons took place over 6 days, and included diverse methods to reach all learners. Students participated in discussions, observed models, interpreted data, viewed videos on topics, and created graphs to enhance learning. The topics that were covered included: What is conservation? Is water a renewable resource? How much water is available for us to drink? Where do we get our water? How do the water cycle and drought affect water supply? How much water do we use? What is a watershed? How does water get to us, and where does it go? and, Ways that we can conserve water.

Assessment Piece:
The teacher candidate and faculty sponsors created and pilot tested The Water Conservation Survey, and it was given before and after the lessons took place in the classroom. The Water Conservation Survey was used to measure student’s awareness, behavior, and knowledge regarding water conservation and resources. The Awareness section measured student’s awareness of water use and the implications of their daily water use. The Behavior section measured student’s behavior related to water use. The Knowledge section measured student’s knowledge of water resources, availability, and conservation.

Result scoring:
Each section had three answer choices. The most desirable answer was scored as a 3, while the least desirable answer scored a 1. The line graphs show the average score for each question in the corresponding section.

Findings:
The results of this study show that awareness actually decreased from the pre-assessment to the post-assessment. Upon reviewing student work, this may be due to the increased knowledge of water availability in the area. In water conservation literature, it has been suggested that water conservation behaviors may be linked to perceived risk of water shortages. The behavior section showed some increase from the pre-assessment to post-assessment, indicating that students intend to adopt more water-conserving behaviors in the future. Results from the knowledge section show the largest increase from pre-assessment to post-assessment. Students displayed a significant increase in knowledge of water resources and conservation. These results show that in-classroom lessons will significantly increase knowledge, and can contribute to more water-conserving behaviors; but other methods are necessary to increase student awareness of water use and improve overall probability of persisting water-conserving behaviors in the home.