Project SEARCH

Science Education Advancing Research of the Chesapeake Bay and its Habitats

Interim Project Report - December 9, 2010
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What is SEARCH?

- 2 Year Project
- Urban 5th-6th graders
- Environmental Focus
- STEM Approach
Science
- Oysters
- Harmful Algal Blooms
- Nature of Science
- Scientific Processes
- Environmental Toxicology

Mathematics
- Graphing
- Statistics
- Data Analysis
- Modeling
- Ratios and Proportions

Technology
- Design Processes
- Effects of Technology
- Information and Communication Technologies
- Energy and Power Technologies
SEARCH
Objectives

A: Enhance urban teachers’ and students’ STEM literacy with an emphasis on their relationship with the Chesapeake Bay system

B: Increase interest of underrepresented populations in earth/environmental science fields

C: Increase students’ abilities to conduct authentic scientific inquiry using appropriate technologies

D: Increase teachers’ knowledge and use of technology-enhanced, inquiry-based instructional strategies
Objective B: Increase interest of underrepresented populations in earth/environmental science fields

Intervention:
1) Work with environmental lawyers and make explicit connections to non-traditional STEM careers
2) Direct contact with scientists

Results:
"I'm thinking about being a scientist," he said, adding, "I'm actually a dude who cares about fish, and I don't want them to die in a polluted river."
Objective C: Increase students’ abilities to conduct authentic scientific inquiry using appropriate technologies

Intervention:
1) Work with Vernier probeware, digital microscopes, etc
2) RV Slover cruise
3) Summer Academy
4) SEARCH Club

Results:
A functioning observation buoy capable of providing real-time, tier-one data (temp, cond, DO) to the public and state agencies (DEQ).
What Has SEARCH Accomplished?

Objective D: Increase teachers’ knowledge and use of technology-enhanced, inquiry-based instructional strategies

Intervention:
1) Teacher workshop sessions
2) Sustained Team meetings
3) VAST presentations

Results: Newly revised curriculum that incorporates 5E Learning Cycle Model and authentic scientific tools
What’s Next for SEARCH?

Objective A: Enhance urban teachers’ and students’ STEM literacy with an emphasis on their relationship with the Chesapeake Bay system

Study Design:
- Treatment and Comparison Group
- Pre/Post Test
- Intervention – Newly revised Envirobse Curriculum

Results:
We hypothesize that the treatment group will show higher achievement on technology, data analysis, and stewardship items
SEARCH Products

SEARCH Website:
http://www.odu.edu/~ddickers/grant_noaa_search.htm

Media Documents

Publications and Presentations (14)