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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

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Content Focus

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

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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

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

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

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What Has SEARCH Accomplished?

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."

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What Has SEARCH Accomplished?

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).

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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

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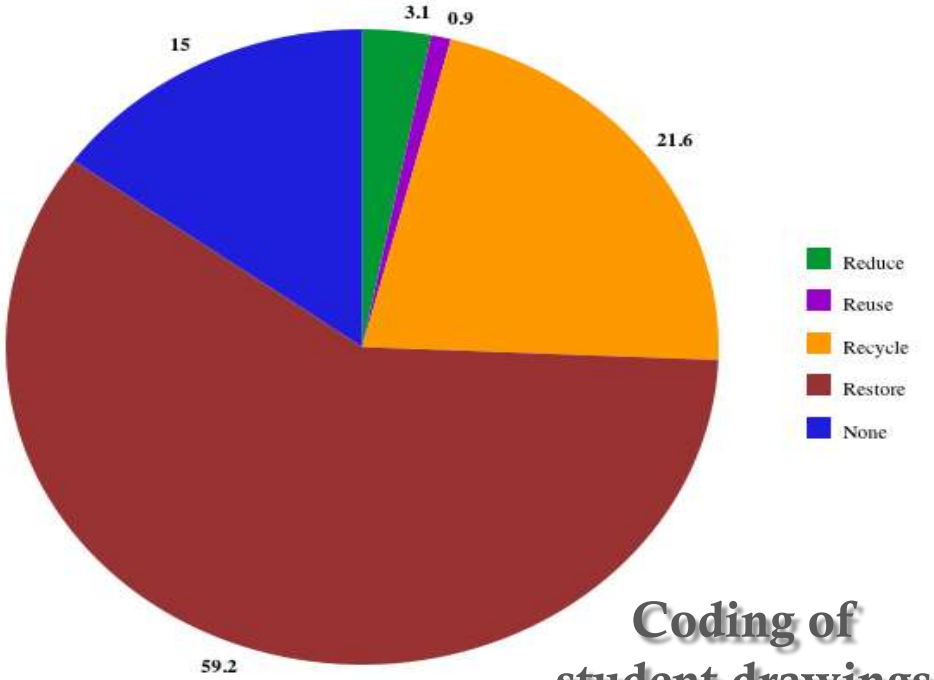
What's Next for SEARCH?



Coding of student drawings

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 Envirobase 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)