

Iowa Student STEM Symposium on Mathematics and Science

November 5, 2008

Price Laboratory School Fieldhouse, Cedar Falls, IA 50613

Press Release

There have been numerous calls to reform science education for two decades, including the *National Science Education Standards (NSES 1996)*, *Benchmarks for Science Literacy (BSL 1993)*, *Standards for Science Teacher Preparation (SSTP 1998)*, *Before It's Too Late (NSMST 2000)*, and *No Child Left Behind (NCLB 2002)*. In spite of all the responses to these calls we see the nation's leadership in science still faltering with special concern for the physical sciences and engineering where the number of higher degrees continues to drop. Most recommendations in earlier studies centered on teacher professional development as a way to increase the quality and quantity of effective science teaching. Yet this focus on teachers leaves an important component out, **the students**. Although we willingly agree that teachers play a critical role in student engagement in the classroom, students control their own motivation and are directly responsible for their own learning. Research has shown that "an important prefix to producing scientifically literate adults is actively involving kids in doing science when they are young. " Involving students in "doing science" may also be used as a way to teach critical thinking skills. The Iowa Student STEM Symposium focuses efforts supporting students' efforts to increase their participation in STEM activities. Many of the 2007 student teams worked on STEM activities outside of the school day as they planned and participated in outreach and academic clubs. Approximately 73% of the schools chose to increase the number of students taking higher-level math and science courses in high school, 18% chose to focus on increasing the number of students choosing a STEM-related career, and the remaining schools focused on increasing academic achievement. Students' final projects ranged from

presentations to the 8th graders as to the importance of math and science, poster/T-shirt campaigns to take more math and science classes, promotional videos showing the science/math in life, and the formation of academic clubs to promote afterschool math/science activities. Over 40% of the schools showed increases in the numbers of students choosing math and science courses, with two schools demonstrating significant increases. Out of School (OST) learning experiences are a viable option to bolster student learning in a world that is increasingly dependent upon strong STEM literacy and capability. “One major emphasis of science embedded in afterschool practices is, importantly, increased student learning and achievement within the school day. Placing the responsibility and ownership of STEM learning with students provides a strong impetus to increase STEM activities for all in the school district.

In light of the success of the first student STEM summit for the 2nd annual Iowa Student STEM Symposium teams of 4 to 6 students from 41 Iowa high school across the state will be working to become STEM ADVOCATES for their schools and communities. The conference is slated to be held at Price Laboratory School on the UNI campus in Cedar Falls from 8:30 am to 2:30 pm. The theme of the conference was inspired by a video developed by a team of students ***Life Takes Math and Science and So Should You.*** Shannon CdéBaca, internationally recognized Iowa science teacher will be the keynote speaker.

Prior to this fall event, every team will be collecting background data from their schools that will help answer questions about student choices related to mathematics and science in high school and as a career choice. but students will be challenged to take some action to effect change. Then the students will be challenged to take some action to effect change. The teams will receive the charge of designing and carrying out a school-based project aimed at accomplishing one of these purposes:

- to increase student achievement in high school mathematics and science.
- to increase the number of students who enroll in high school math and science courses, or
- to increase the number of students entering science, mathematics, engineering or technology careers.

Each school will receive a tool kit, designed to acquaint them with marketing strategies and guidance as they prepare their individual projects. Components of the tool kit include:

- Fact sheet conveying the high demand message for science, math and engineering.
- Worksheet/template on how to design and carry out a project
- List of potential project ideas
- Resources for projects and
- Career information

Armed with information gathered at the symposium and their own creative ideas, students will return to their hometowns and create their own individual projects where they will become the **STEM advocates** for their school & community. Students may decide to conduct a city-wide publicity campaign about the importance of taking math and science, host an interest-generating science fair for elementary or middle school students, or even to launch a poster, TV, or radio campaign aimed at getting students excited about math and science careers. The creativity of the students opens up new possibilities to impact the future of math and science in Iowa.

In addition to the student teams, representatives from the Iowa Department of Education, Area Education Agency, Iowa legislators, and the Iowa business community will be in attendance.

Filename: 10Press Release 08.doc
Directory: F:\Documents and Settings\Amir Karamuja\Desktop
Template: F:\Documents and Settings\Amir Karamuja\Application
Data\Microsoft\Templates\Normal.dotm
Title: Talking Points for Gov
Subject:
Author: J. Stone
Keywords:
Comments:
Creation Date: 10/31/2008 10:04:00 PM
Change Number: 3
Last Saved On: 10/31/2008 10:13:00 PM
Last Saved By: Lyn Countryman
Total Editing Time: 9 Minutes
Last Printed On: 11/5/2008 8:16:00 PM
As of Last Complete Printing
Number of Pages: 4
Number of Words: 822 (approx.)
Number of Characters: 4,686 (approx.)