
December 2007

ARTICLES

[High-Schoolers Help Elementary Students with Biology Lessons](#)

North Carolina high-school biology students are helping teach first-graders about birds, part of a series of hands-on lessons developed jointly by a first-grade and high-school biology teacher. "I want to be a teacher, so this is helpful to have this interaction with the kids," said junior Ashley Carter. "Also, when I was younger, I liked having interaction with older kids."

[Study: U.S. Math Teachers Lack Adequate Preparation](#)

U.S. middle-school math teachers are less knowledgeable about algebra, geometry and other advanced math topics than teachers in countries where students score better on international tests, according to a new Michigan State University study. U.S. teachers-in-training studied just 43% of such topics while Taiwanese and Korean future teachers on average covered 79% to 86%.

["Investigations" Inspire Seventh-Graders to Sample Science](#)

Solving fictional cases is helping spark the interest of 100 Virginia seventh-graders in science and biotechnology. Modeled on the popular "CSI" television series, the program includes gifted students as well as those with special needs.

[Encouraging Female Engineers](#)

The Chantilly Academy is offering its first-ever, all-girls course in engineering, and it's proving both popular and practical. It's attracted a talented and enthusiastic group of students, received support from professionals and provided a potential, new career path for many girls.

[Enrollment in Biotech Classes Rising](#)

High school students in George Cachianes's biotech classes learn cutting-edge lab techniques and sequence their own DNA. Enrollment in certain advanced math and science classes rose significantly between 1997 and 2004, according to the National Science Foundation.

[Teacher Tactics Help Eighth-Graders Master Advanced Math](#)

Although 55% of the students at Provo, Utah-based Dixon Middle School qualify for free or reduced-rate lunch, students in the school's eighth-grade geometry classes have been performing above the state average on the Criterion Referenced Tests since 2004. The school attributes the success to various teaching techniques, including requiring students to take lecture notes in math classes and administering review tests.

[Kids Plus Math Clubs Equals Confidence](#)

Some students in Bob Fischer's math club at Honey Creek Middle School in Terre Haute, Ind., show up as early as 6:30 a.m. to work on problems before the school day starts. That may not add up, considering the math fears that many students harbor. But educators say a new program provided by a math organization is breeding success that leaves students eager to take on more math challenges.

[Opinion: U.S. Not Making Progress in STEM Education](#)

(From CareerTech Update, 1/2/08)

Gordon R. Ultsch, Ph.D., a high school and college teacher of more than 30 years, writes that the realization that the U.S. is falling behind other countries in the teaching and learning of STEM (science, technology, engineering and mathematics) subjects makes the news, but is followed with little progress. Ultsch pointed out that there are two reasons in particular for why the root causes of our lag in STEM teaching have not been addressed: first, teachers are not required to hold advanced degrees in the areas for which they were hired; and second, teachers' unions that foster and reward mediocrity and insist that everyone be treated the same, regardless of merit."

[Girls Narrowing Achievement Gaps in Math and Science](#)

(From CareerTech Update, 1/2/08)

More girls and women are getting involved—and succeeding—in math and science than ever before. Yet persistent gaps between girls and boys in math and science standardized test scores remain, as well as gaps, advocates say, in professional opportunities. The gaps are narrowing, though, in part because of girls' increasing involvement in math and science classes. According to Long Island Newsday, there is a growing participation by girls in a number of science programs.

RESOURCES

[Math It Up](#)

Girls can get more enthused about math when there's a club that encourages their math understanding and appreciation. Get free materials from Mathcounts, a national group promoting middle-school math achievement, for use in a club or as enrichment tools.

[Good Math Lesson Plans](#)

This webpage provides lesson plan templates for preservice and inservice teachers who are learning to teach math and/or working to improve their teaching of math.

[Video Sites Make Science More Accessible](#)

A number of video-sharing web sites have cropped up online, designed to let scientists broadcast themselves toiling in the laboratory or delivering lectures. Fans of the niche sites say they help students and the general public understand the scientific process.

[Encouraging Girls in Math and Science: IES Practice Guide](#)

The goal of this practice guide is to formulate specific and coherent evidence-based recommendations that educators can use to encourage girls in the fields of math and science. The target audience is teachers and other school personnel with direct contact with students, such as coaches, counselors, and principals.

SAVE THE DATE

[1st Annual IGNITE Membership Conference](#)

On Saturday, January 12th, 2008, Microsoft is hosting the 1st Annual IGNITE Membership Conference. Conference highlights include young women sharing their IGNITE experiences and how these experiences have created new directions and opportunities in their lives, teachers who have participated in IGNITE explain how the program has helped their students, and women from Microsoft conveying their passion for IGNITE and why they believe that it should be part of all school programs.

NEWS FROM WASHINGTON

On October 17th, the House Science and Technology (S&T) Committee held a hearing on the subject of ["Women in Academic Science and Engineering."](#)

On October 18th, the Society of Women Engineers, along with its co-sponsors, held a noontime Congressional briefing entitled, ["The Leaky Science and Engineering Pipeline: How Can We Retain More Women in Academia and Industry?"](#)

For more information about the STEM Equity Pipeline Project go to www.napequity.org



Funded by the National Science Foundation

HRD-0734056