



Forging new generations of engineers

the sharp edge



Biomedical Sciences Boom

PLTW makes first-ever foray into hot career field

In response to a growing need, Project Lead The Way is expanding beyond engineering into a new field for the program: **Biomedical Sciences**.

"This is the start of a new era for PLTW," says Richard Blais, PLTW Vice-President. "We will bring the same excellent curriculum and professional development to Biomedical Sciences as we have to pre-engineering."

The program will initially consist of four courses: Introduction to Biomedical Sciences, Human Body Systems, Medical Interventions, and Scientific Research.

PLTW is piloting the new program in 12 schools during the 2007–2008 school year. Starting with the 2008–2009 school year, the new courses will be implemented at the rate of one per



school year over the next four years. The program's development is being funded by state education departments in Connecticut, Indiana, Maryland,

Missouri, Oklahoma, and South Carolina.

The Biomedical Sciences program is PLTW's response to an impending shortage of science and health professionals in the United States and the lack of high school programs that prepare students for the rigors of biomedical studies in college.

Biomedical Sciences is a booming field, employing more than 12 million people in a wide range of occupations in the United States. Preparing for these careers requires a broad foundation in science, mathematics, language arts, and social studies. In addition, increasingly more specialized knowledge is essential in such areas as microbiology, physiology, public health, and a

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PLTW IN ACTION

PLTW to Publish Textbook Series

PLTW and Thomson Delmar Learning have unveiled plans to publish high school and middle school textbooks aligned with the PLTW curriculum.

The texts will be both adaptations of current materials and original works that will be fully integrated into the Pathway To Engineering and Gateway To Technology programs.

"The alignment of an insightful and contemporary textbook series to PLTW coursework will provide an enhanced teaching and learning experience for both instructor and pupil," says Niel

Tebbano, PLTW Vice-President. "The result will be improved student mastery with greater depth of understanding."

The collaboration marks a step forward for PLTW, which to date has provided teachers with lists of existing texts they might use for PLTW classes.

The new aligned series from Thomson Delmar Learning will reinforce the PLTW teaching-learning experience. The first book will debut in spring 2007, with one or two published each year thereafter. Distribution plans have not been announced.

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 To learn more about the upcoming series of textbooks, visit www.pltw.org or call Thomson Delmar Learning's Customer Service Team at 800-477-3692.

(Continued from page 1)

Biomedical

variety of legal and ethical subjects.

PLTW has convened a team of biology and chemistry high school teachers and college professors to develop the curriculum, which will parallel the structure of the pre-engineering courses. Dr. Carolyn Malstrom, PLTW Associate Director of Curriculum Development for Biomedical Sciences, is looking forward to the new page in PLTW's portfolio.

"The program is a major expansion of PLTW and will provide high school students with rigorous and relevant training in a field with numerous and ever-increasing job opportunities," she says. "I look forward to continuing to share my enthusiasm for science and to generating that spark in students through PLTW curriculum."

Malstrom adds that PLTW's rigorous, hands-on, activity/project/problem-based learning provides the kind of experiences students need to succeed in the Biomedical Sciences field.

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 To learn more about PLTW's new Biomedical Sciences program, visit www.pltw.org.

Vice-President's Corner

By Richard Blais

Honoring Our Roots

It is not the critics who count, not the individuals who point out how the strong ones stumbled or where the doers of deeds could have done them better. The credit belongs to the persons who are actually in the arena; whose fates are marred by dust and sweat and blood; who strive valiantly; who know great enthusiasms, great devotions, and the exhilaration of energy spent in a worthy cause. Their place shall never be with the cold and timid souls of self-proclaimed experts who know neither victory nor defeat."

—Theodore Roosevelt

Contemplating the approaching 10th anniversary of the Project Lead The Way initiative, the words of Theodore Roosevelt flowed in my reflection. A rugged individualist, our former president is remembered for his uncompromising



Richard Blais

Stacey Lauren

position on core patriotic beliefs that drove many controversial, yet effective, decisions during his administration.

When first brought forward, the concept of Project Lead The Way met resistance. Indeed, in its 10-year evolution, critics and doubters have existed and certainly remain. But the concept has resonated from the outset with "persons who are actually in the arena"—

secondary and post-secondary school instructors and administrators whose priority has been rigorous and relevant instruction and learning for their students who deserve no less.

As Project Lead The Way prepares to mark its 10th year, it is appropriate to acknowledge the commitment and engagement of these educators who have experienced and understand "great enthusiasms, great devotions and the exhilaration of energy spent in a worthy cause."

Let me say it simply: Thank you.

PLTW Students Win Inventor's Competition

PLTW students from Gulliver Preparatory School of Pinecrest, Florida, won the National Engineering Design Challenge in February.

Gulliver's invention—the Simple Electronic Ergonomic Box Opener—helps people with arthritis or carpal tunnel syndrome open cardboard boxes safely without straining their fingers.

Fourteen students from the school's Principles of Engineering, Introduction to Engineering Design, and Digital Electronics courses made up team. They received their first-place prize at a

ceremony in Washington, D.C., on February 17. The award included \$3,000 for Gulliver's engineering department.

The contest was sponsored by NISH—Creating Employment Opportunities for People with Severe Disabilities and the Junior Engineering Technical Society (JETS), which challenged students to design and build technological solutions that empower people with disabilities to enter or advance in the workplace.

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 To learn more about National Engineering Design Challenge, visit www.jets.org/programs/nedc.cfm.



The Simple Electronic Ergonomic Box Opener for workers with disabilities employs sophisticated electronics to control the cutting blade and features an ergonomic case design.

Colorado Springs Middle School Girls Explore Engineering

National Engineers Week included special outreach to female future engineers in Colorado Springs, Colorado, this year.

Girls from Eagleview and Holmes middle schools toured ArrowsWest Technology Park on February 23 as women engineers from Agilent Technologies, Intel, JR Engineering, and Vitesse led question-and-answer sessions and conducted science-inspired games and activities to celebrate “Introduce a Girl to Engineering Day.”

Many of the 80 girls in attendance are Gateway To Technology students. Carole Passmore, of the Pikes Peak Section of Society of Women Engineers, which organized the event, says teachers, engineers, and parents must begin inspiring girls to consider entering science and math occupations at a younger age.

“If you don’t get them now, they’ll get turned off of math and science,”

Passmore observes. “Unfortunately, they get turned off.”

Holmes eighth-grader Krista Albers says she didn’t attend the engineering event just to avoid a typical day in the classroom. “Most of my friends did,” she



Kelly Parthen, Agilent Technologies

Yu Jin Choi, a sixth grader at Eagleview Middle School, attended “Introduce a Girl to Engineering Day,” sponsored by the Society of Women Engineers.

reveals, “but I really want to go into engineering.”

One message Passmore had for the group was not to forget about the Society

of Women Engineers if and when the girls decide to pursue engineering after high school.

“Be sure to come back to us and ask us for some money,” she advised. “We’ll provide scholarships.”

The day’s activities included building an electrical circuit at Agilent Technologies. The circuit board consisted of a wire, paper clip, battery, and a light. The girls tested their circuits by touching the wire with a metal ring. The red light would illuminate, demonstrating that the metal was conductive. Each girl was able to take her circuit board home with her at the end of the day.

National Engineers Week was held in Colorado Springs and throughout the nation from February 17th to 23rd this year.

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To learn more about National Engineers Week and to see future dates, visit www.eweek.org.

STUDENT SPOTLIGHT

Student Power

I know there aren’t a lot of girls who go into engineering, so I’m trying to tell them about the opportunities there are and about how much fun it is,” says Trushna Patel.

Only a freshman at Anderson County High School and Career and Technical Center in Clinton, Tennessee, Patel conducts Engineering Camps for area 8th graders with Anderson County PLTW instructor Mark Proffitt.

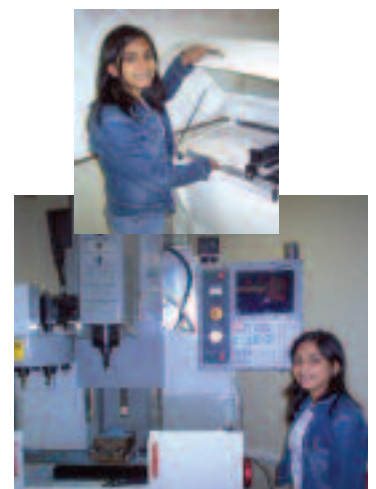
Proffitt got the idea to enlist Patel in his recruiting efforts after watching her excel in the Inventor software program in his Introduction to Engineering Design class last fall.

“Projects that were taking other students two weeks to complete, she would turn in after two

days,” says Proffitt. “You don’t normally see that in freshman. Juniors and seniors are starting to get their lives straightened out, but this girl is focused, and she knows what she wants.”

Patel, who currently plans on pursuing computer science after high school, and Proffitt visit one middle school for a few days each week to show off the PLTW program, and give 8th graders a chance to try some computer software activities. Both Patel and Proffitt say several campers have said they will sign up for PLTW classes for their freshman year.

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To learn more about Anderson County’s Engineering Camps for 8th graders, contact [Mark Proffitt at mproffitt@acs.ac](mailto:Mark.Proffitt@acs.ac).



“I love my PLTW coursework. I can create anything I want to on the computer and watch it come to life.”

—Trushna Patel

PLTW School Helps Katrina Students

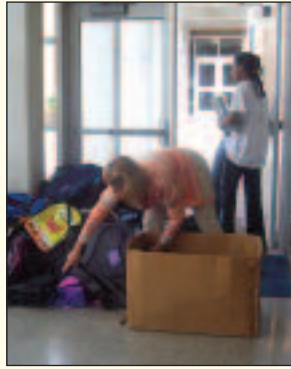
PLTW students from Westover High School in Fayetteville, North Carolina, recently rose to a challenge presented by their school counselor to help students affected by Hurricane Katrina.

Dawn Holt, Westover's Engineering Academy Counselor, asked the school's PLTW students to collect school supplies for the students of Florida Avenue Elementary School in Slidell, Louisiana. Holt attended the school in the New Orleans suburb as a young girl.

"I called the school's principal to see what their needs were after the hurricane," says Holt. "I knew that their immediate needs would be met, but we wanted to do something to give them a

fresh start to the rest of their school year."

Florida Avenue's principal, Elaine Motte, told Holt that the school building had sustained significant damage from wind and mud. So Holt, along with Westover PLTW teachers Jeannie Johnson, James Gagne, and Michael Ferguson, and 54 PLTW students began collecting book bags and the items to fill them. The teachers and students from Principles of



Engineering, Introduction to Engineering Design, Digital Electronics, Computer Integrated Manufacturing, and Engineering Design and Development classes collected enough notebooks,

paper, pens, and pencils to fill more than 350 book bags.

"We were able to tell parents that they didn't have to worry about going out and looking for supplies and book bags," says Motte. "We helped all our students who need it."

Reaching out to those in need is nothing new for Westover's PLTW students, who average 600 community service hours each school year.

"Being part of PLTW, our students should be leaders in the community," says Holt. "PLTW is not only about the great curriculum, it's about creating students with heart."

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To learn more about Westover PLTW's efforts, contact Dawn Holt at

NADawn1@aol.com or visit

www.wohs.ccs.k12.nc.us.



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