



Forging new generations of engineers

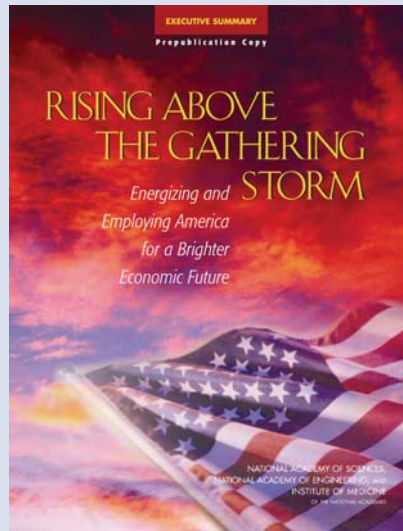
the sharp edge



PLTW Influences National Policymakers

Project Lead The Way has been singled out by our nation's leaders as a model for improving the state of education in the United States.

In February, the National Academies released its report focusing on the nation's need for sweeping efforts to strengthen the country's scientific competitiveness. *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* is the National Academies' answer to questions raised by Senators Lamar Alexander (R-Tennessee) and Jeff Bingaman (D-New Mexico) of the Committee on Energy and Natural Resources. In May 2005, the lawmakers asked what actions could be taken by federal policymakers to enhance science and technology to keep



the United States competitive globally in the 21st Century.

Over the next six months, the National Academies devised four overarching recommendations for actions to be taken in K-12 education, research, higher education, and econom-

ic policy. K-12 schools were noted as the highest-priority area. Along with the suggestion that 10,000 new science and mathematics teachers be recruited annually, the Academies charged legislators with strengthening the skills of 250,000 teachers through training and education programs at summer institutes, Master's Degree programs, and Advanced Placement (AP) and International Baccalaureate (IB) training programs. **The report singles out PLTW as the model by which "high-quality teaching with world-class curricula, standards, and assessments of student learning" should be cultivated.**

"The recognition of PLTW by the National Academies is an acknowledgement that the solution to improving the academic performance of schools in America is directly related to

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PLTW IN ACTION

PLTW and SME Foundation Team Up

PLTW is partnering with the Society of Manufacturing Engineers Education Foundation (SME/EF) to establish a new summer pre-engineering program for middle school students.

The program will premier this summer at schools in three metropolitan areas: Rochester, New York; Los Angeles; and San Diego. SME/EF will provide a \$50,000 grant to PLTW for curriculum development and up to \$75,000 to support the three pilot programs.

PLTW will develop four introduction-to-engineering units that

will lead into the Gateway To Technology program.

"We are pleased with this opportunity to collaborate with Project Lead The Way," says Sherril K. West, president of the SME/EF. "In a globally competitive economy with emerging technologies rapidly challenging the knowledge base of its workers, the U.S. has to develop a new workforce to meet the challenge of a global job market where the demand for science and engineering workers continues to erode U.S. dominance."

For more about the PLTW SME/EF partnership, visit www.pltw.org/bulletins.shtml.



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Model Program

providing schools with high-quality, relevant curricula, and rigorous professional development for teachers,” says Richard Blais, PLTW Vice-President. “This is the critical path to transforming schools in America.”

Blais stresses that it is transformation rather than reform of schools that is needed, and that PLTW can serve as a model for programs in other disciplines. The key to that transformation, according to Blais, is contextual education. While AP and IB courses challenge students and teachers, they fail to provide the relevance that the National Academies cite is missing from today’s public schools. “PLTW provides meaning and purpose for learning,” Blais adds.

PLTW is letting legislators know why the program works. In follow-up communication to the Senate Health, Education, Labor, and Pensions Committee subcommittee hearing on Education and Early Childhood Development on March 1, 2006, Niel Tebbano, PLTW Vice-President, attributed the program’s success to its “contextual project- and problem-based instruction,” as well as its industry and postsecondary education partnerships.

PLTW partners are spreading the word to policymakers, too. On February 1, 2006, Judy Cara, Community Relations Manager for the Intel Corporation in Colorado, presented an overview of Colorado PLTW to the U.S. House STEM (Science, Technology, Engineering, and Mathematics) Caucus, which included more than 150 congressional staff members, educators, and members of the press.

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For more information on the National Academies and their report to the members of the Senate, visit fermat.nap.edu/catalog/11463.html.

Vice-President’s Corner

By Richard Blais

Education at Risk

I’ve heard more than one person observe, “Education’s future is not what it used to be.” That’s an interesting statement, but one that I fear is becoming a reality.

In 1983, a milestone report called *A Nation at Risk* was published alerting the United States to an impending crisis due to inadequacies of the K–12 education system. Since then, many other reports have also called for reform, but with no real innovative solutions. With few exceptions, these reports have focused on increasing the quantity of the same traditional courses and approaches that have proven limited in scope and overall effectiveness.

The latest proposals in the report *Rising Above the Gathering Storm* (see page 1) do the same: increasing AP courses, IB programs, foreign language instruction, math courses, and the number of math teachers. While well intended and even valiant, the



Richard Blais

reality is that, as we move forward with these proposals, students will continue to ask, “Why do I need to know this?” and “Where will I ever use this?”

The reason education’s future is not what it used to be is because students today are not what they used to be. They have been raised in an age of interactive technology, which has influenced almost all of their life experiences. Today’s student

thrives on curriculum that is contextual and that invites the students’ engagement in project/problem-based activities. In short, they do best with school curriculum that is both rigorous and relevant—programs like PLTW in which they understand why they need to know something, and where and how they can use it.

Project/problem-based programs that integrate more than one subject are not only what teach students best, they are education’s future. Policymakers must recognize this. Our future depends on it.

State Leaders and Affiliate Directors Meet

More than 100 members of the PLTW network convened in Kansas City in December for the sixth annual PLTW State Leader and Affiliate Director Summit. At the two-day meeting, Gene Bottoms, Senior Vice-President of the Southern Regional Education Board, was named Educator of the Year. PLTW presented Patriot Awards, which are given to organizations that have contributed altruistically and patriotically to PLTW’s mission, to the Indiana Department of Education, Indiana Workforce Development, and Purdue University. Special Recognition Awards went to Jim Leon from New Hampshire Technical Institute for his

dedicated service to PLTW and to Rochester Institute of Technology for “stellar” partnership.



PLTW’s Richard Blais (left) and Niel Tebbano (right) present Patriot Awards to Michael O’Hair of Purdue University and Patty Shutt of the Indiana Department of Education.

Indiana Educators Attend Professional Development Workshop

More than 300 educators from 80 Indiana schools attended the first PLTW Teacher Professional Development Workshop in Indianapolis in November.

Both teachers and school counselors convened at the Rolls Royce Training Center to learn more about PLTW and network with other educators.

A team of PLTW master teachers and representatives from Indiana's Department of Education organized the conference. Teachers Sam Cox and Wes Terrell from Lafayette Jefferson High School in Lafayette, Indiana, planned the teacher portion of the conference, while Ken Thompson and Dave Wilkinson, Planning & Program Improvement Specialists for the Indiana Department of Education, headed up the counselor portion.

Cox approached the Department of Education about a statewide conference and it agreed to sponsor the event along

with Rolls Royce. "When we started planning the conference, I thought there would be around 30 to 40 teachers interested," says Cox. "We had over 140 teachers in attendance, which shows there is a need for this."



The Indiana Department of Education teamed up with the Rolls Royce Corporation to offer a one-day training conference for PLTW educators.

"PLTW does a great job preparing and teaching students and is a nice link between the classroom and industry," says Wilkinson. "It's important to promote

successful programs like PLTW."

School counselors in attendance learned more about PLTW courses and opportunities for their students. Teachers split into small groups for training sessions led by PLTW Master Teachers, affiliate professors, and veteran PLW teachers. The sessions focused on new software and course changes, and allowed teachers to share best practices for classroom instruction. The small groups were led by PLTW master teachers, affiliate professors, and veteran PLTW teachers.

Cox says he and Terrell plan to make the conference an annual event that will grow to meet the needs of new and experienced PLTW teachers. "This conference could also be a model for other states," he adds.

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For more information on Indiana's Teacher Professional Development Workshop, contact Master Teacher Sam Cox at 765-772-4700 ext. 2218.

STUDENT SPOTLIGHT

Racing Green

Brent Singleton has been racing cars since he was 12 years old. Now he's being recognized by the U.S. Environmental Protection Agency for his efforts to keep his racing clean and green.

In February, Singleton, a PLTW student and senior at Bonneville High School in Ogden, Utah, was awarded the President's Environmental Youth Award for EPA Region 8 for his "Quadbrid" race car.

The project began as a science fair and Eagle Scout project three years ago. Singleton and his father, Kent, purchased a dismantled hybrid land-speed racer from Weber State University and modified it by adding solar

panels and wind generators. Singleton's racer, which is also his everyday vehicle, is able to recharge its 96-volt electric system while the 18-year-old attends classes.

"I've always loved racing," says Singleton, "but I've also always had an awareness of our environment."

Along with his Quadbrid racer, Singleton drives the National Hot Rod Association's first electric-powered junior dragster. He also launched a campaign to save the environmentally threatened Bonneville Salt Flats, which are world-famous for hosting land speed races, as well as for their rich mineral deposits.

"Brent has done some amazing and innovative things with his vehicle modifications," says Robert



"PLTW made me realize I could do this stuff as a career."

—Brent Singleton

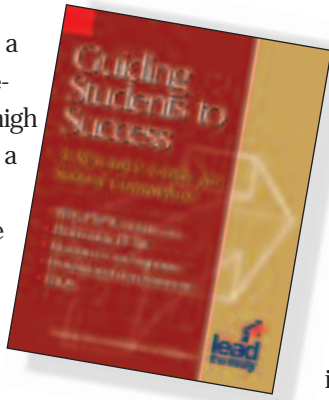
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PLTW Counselor's Kit Now Available

PLTW is premiering a new collection of marketing materials specifically for middle school and high school counselors.

The Counselor's Kit includes a booklet, posters, a series of one-page Pathway To Engineering high school course descriptions, and a one-page introduction to the Gateway To Technology middle school units.

The resource booklet, *Guiding Students to Success* (right), is for both new and experienced PLTW school counselors. There is also one middle school poster and one high school poster in the Counselor's Kit. Both invite students to participate in PLTW. The booklet and posters feature photographs of students



from the Pathway To Engineering courses at Martin Luther King Jr. Magnet High School in Nashville, Tennessee.

Rounding out the Counselor's Kit are the course descriptions for students and parents. A one-page overview of Gateway To Technology gives a quick look at the five units that make up the program. Each of the eight Pathway To Engineering courses has its own one-page description, complete with examples of activities, projects, and problems students will encounter.

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To order a copy of the PLTW Counselors Kit, visit www.pltw.org/inforeq.shtml.

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Singleton

E. Roberts, Regional Administrator for EPA's Region 8 office. "His cutting-edge cars are wonderful examples of applied science and engineering making a difference. He is advancing the development of high-performance electric vehicles and raising public awareness about alternative fuels and sustainability."

While Singleton's passion for electric cars preceded his PLTW enrollment, PLTW has "helped me understand how to apply my interests," he says. "PLTW made me realize I could do this stuff as a career, and to me that's pretty cool."

Singleton is looking forward to college this fall, where he hopes to prepare for a career in environmentally friendly engineering.

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For more, visit Singleton's website at www.savethesaltflats.com.



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