

Math, Science at Center of Competitiveness Initiative

President Sets Agenda for Education

In his State of the Union Address on Jan. 31, President George W. Bush announced an ambitious strategy that highlights education as a critical factor in strengthening the nation's ability to compete in the global economy.

The president's American Competitiveness Initiative would commit \$5.9 billion in fiscal year 2007, and more than \$136 billion over the next 10 years, in federal investments to advance math and science education, promote research and development, and encourage innovation.

"To keep America competitive," said President Bush in his address, "one commitment is necessary above all: We must continue to lead the world in human talent and creativity. Our greatest advantage in the world has always been our educated, hardworking, ambitious people—and we're going to keep that edge."

The initiative and other Department programs



such as the following seek to improve math and science learning:

- > National Math Panel—based on the success of the National Reading Panel sponsored by the U.S. Department of Education, this committee of experts would create a research base to improve instructional methods and materials for math teachers;

- > Math Now for elementary school students—similar to the Department's Reading First initiative, this program would help to prepare K–7 students for more rigorous math course work in higher grades;

- > Math Now for middle school students—similar to the Striving Readers initiative, this program would provide intensive and systematic instruction to help students take and pass algebra;

- > Advanced Placement-International Baccalaureate (AP-IB) Incentive Program—to introduce more rigor for high school students, this effort would

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'Beating the Odds'

High Expectations Help California Students Reach Higher Levels of English Fluency, Academic Proficiency

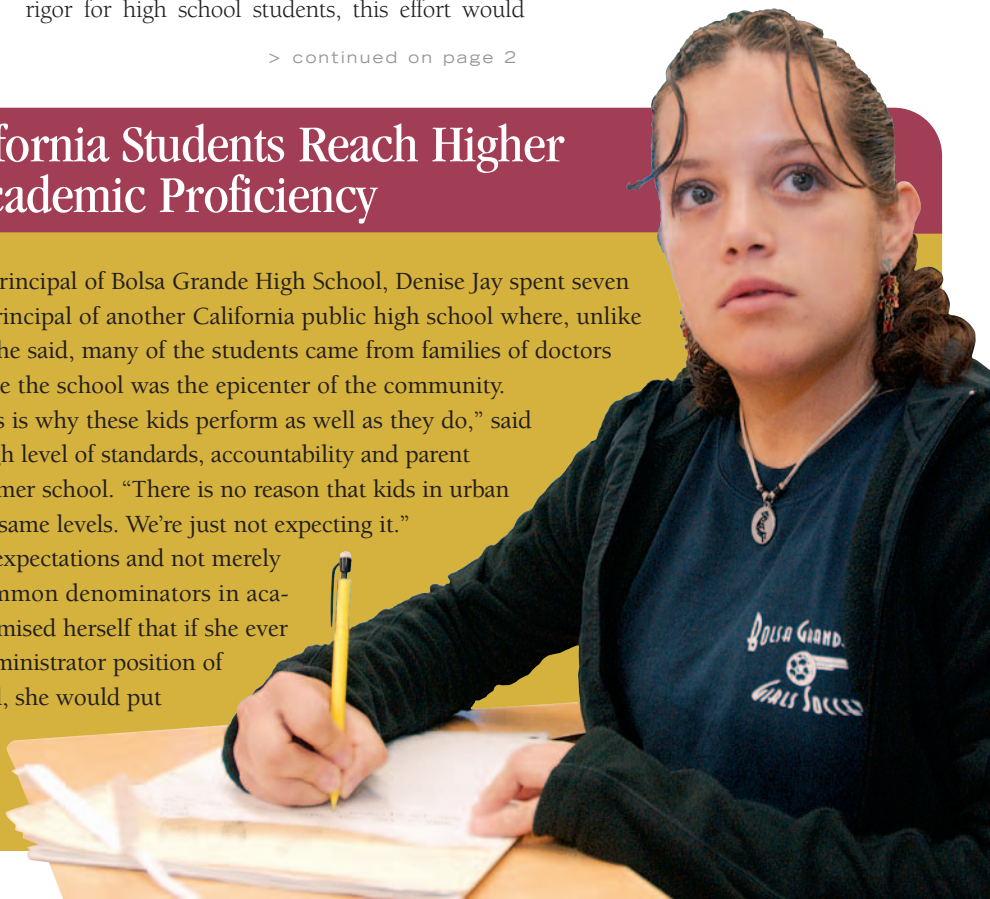
You have to care about these kids and ... their success.

Before becoming the principal of Bolsa Grande High School, Denise Jay spent seven years as an assistant principal of another California public high school where, unlike her current location, she said, many of the students came from families of doctors and lawyers, and where the school was the epicenter of the community.

"I kept thinking this is why these kids perform as well as they do," said Jay, referring to the high level of standards, accountability and parent involvement at her former school. "There is no reason that kids in urban areas can't reach these same levels. We're just not expecting it."

Believing that high expectations and not merely economics are the common denominators in academic success, Jay promised herself that if she ever was offered the top administrator position of a less privileged school, she would put into practice all she

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train 70,000 additional teachers to lead AP-IB math and science courses as well as triple the number of students taking AP-IB tests to 1.5 million over the next five years;

- > Adjunct Teacher Corps—this proposal would encourage 30,000 qualified math and science professionals to become adjunct high

school teachers by 2015; and

- > Academic Competitiveness grants and the SMART Grant Program—these higher education grants build on the Pell Grant program and will benefit more than 500,000 students in need, with financial aid going to high-achieving students who take rigorous high school course

work and to college majors of math, science or a critical foreign language, respectively.

A booklet detailing the education component of the president's American Competitiveness Initiative and other Department initiatives for math, science and foreign language, entitled *Meeting the Challenge of a Changing World*, is available online at www.ed.gov.

Spellings Speaks on Global Competitiveness

Last month, U.S. Secretary of Education Margaret Spellings (pictured at right with U.S. Secretary of State Condoleezza Rice) spoke at the U.S. University Presidents' Summit on International Education in Washington, D.C. An excerpt of her speech follows.

... In the last 50 years, American ingenuity has put a man on the moon, a rover on Mars, and computers in our businesses,

of science and engineering Ph.D.s awarded every year. More importantly, we turned the threat of Soviet competition into proof of our ability to improve the quality of life for our citizens and countless others worldwide.

Today, we have no symbol as obvious as a Russian satellite streaking through the sky to remind us of our global competitors, but there are many smaller signs fast approaching on the horizon. The world is changing at a rapid pace, and many of our students lack the skills to succeed in the global knowledge economy. ...

In this world where what you know means much more than where you live, we all have a responsibility to make sure America's education system gives students the chance to succeed. Preparing our students for the future begins long before college. It starts with high standards, accountability, annual measurement, and disaggregated data to show which students need help and whether some groups of students are falling behind their peers. These principles are the pillars of our nation's commitment to leave no child behind.

Thanks to the *No Child Left Behind Act*, students' scores are rising, and more minority students are catching up to their peers than ever before, especially in the early grades.

Photo by Paul Wood



But we still have a long way to go.

Less than half of high school students graduate ready for college-level math and science. And a recent adult literacy study showed that 11 million Americans—that's 5 percent of our adult population—are unable to read.

The president and I think that's simply unacceptable. So, we're supporting high school reform that focuses on core subjects like reading, math and science to help more students graduate ready for college.

But we can't do it alone. As you know, about 80 percent of the fastest-growing jobs require postsecondary education. ... Unfortunately, less than a third of Americans have bachelor's degrees—and less than 20 percent of African-Americans and Hispanics. ...

Half a century ago, a Russian satellite drove American educators from all levels to work together to prepare a new generation of innovators. Every day, all of us benefit from that collaboration in technology, medicine, industry, and commerce, and so do billions worldwide. ...

For the full speech, visit www.ed.gov and click on "Speeches" for the Jan. 6, 2006, remarks.

HURRICANE RELIEF UPDATE

An additional \$30 million in education aid—on top of \$200 million already appropriated by Congress—will go to help institutions of higher education that were directly impacted by Hurricanes Katrina and Rita, as well as those colleges and universities around the country that enrolled displaced students. Secretary Spellings made the announcement in January at a meeting with university presidents and students of eight major postsecondary schools in the New Orleans area. The \$30 million is unspent federal financial aid that is being redirected.

"Institutions of higher education are a vital component in the rebuilding of New Orleans," Spellings said. "We know that much work remains to be done and we stand ready to help."

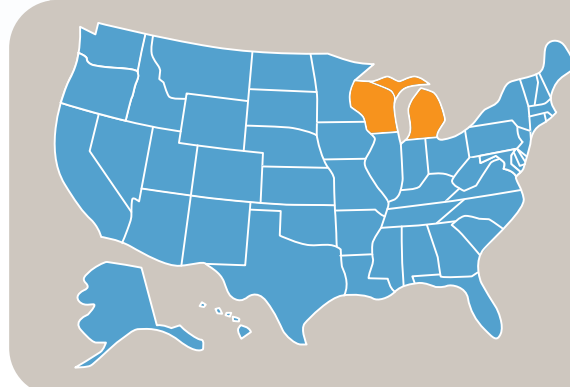
The \$200 million available through the *Hurricane Education Recovery Act* includes \$10 million for the 99 postsecondary institutions that enrolled displaced students, and \$190 million for Louisiana and Mississippi's boards of higher education.

For more information about other Department hurricane relief efforts, visit <http://hurricanehelpforschools.gov>.

our homes, and even our pockets. Research at universities like yours launched the World Wide Web, mapped the human genome, and developed life-extending drugs and treatment for AIDS. ...

Between 1958 and 1968, American universities reacted to Sputnik with an extraordinary display of ingenuity. Within a decade, our country tripled the number

AROUND THE COUNTRY



MICHIGAN—The DaimlerChrysler Corporation Fund in partnership with The New Detroit Science Center will award grants totaling \$87,000 to 30 Michigan public school teachers and their respective schools for their promotion of academic achievement in the fields of math, science, engineering and technology. This May, the Closing the Technology Gap in Education

learned at the affluent suburban high school. So when in 2000 she became the principal of Bolsa Grande, a big-city school located 30 miles south of Los Angeles in Garden Grove, she set on a course to make sure her students, many of whom were Vietnamese and Hispanic immigrants, experienced the same opportunities as their more advantaged peers.



schools serving the most challenging populations “teachers teaching the same course use the same curriculum, give the same tests, and work toward the same standards.”

Before Jay’s arrival, the instructional plan at Bolsa Grande was “open to interpretation, without focus,” she said. That was no surprise since the school at the time was marked for improvement.

Six years later, Bolsa Grande is considered one of the highest-achieving high schools in the state. Even with California doubling its targets for English and math proficiency from 2004 to 2005, the school’s English language learners scored overall two and a half times higher than the expected 2005 levels.

Last fall, Springboard Schools, a nonprofit organization based in San Francisco, recognized Bolsa Grande as one of 10 exceptional high schools in the state with high concentrations of English language learners, low-income students and ethnic minorities. In a study of California schools that were “beating the odds” with high-need populations, it found that Bolsa Grande’s English language learners outperformed comparable schools across the state by 138 percent in English and by 112 percent in math, according to 2004 outcomes. The *California Best Practices Study* is sponsored by the National Center for Educational Accountability, a project funded by the U.S. Department of Education.

After an examination of a broad set of data—including test scores, graduation rates and the number of students completing rigorous course work—the study presents the key findings, which revealed that at the most successful high

Expectations for learning and behavior, she remembered, were low. “In the beginning, I just spent a lot of time resetting priorities,” Jay recalled of her first couple of years.

She started by selecting a curriculum that aligned with the state standards to move all students



not only to proficiency in English-Language Arts but also nonnative speakers to fluency in English. The subject is particularly critical to Bolsa Grande, considering that 42 percent of the students are not fluent in English—nearly 70 percent if including those students who recently progressed from the language-centered program to the regular curriculum

and are, therefore, no longer classified as English language learners.

In addition, Jay implemented more accelerated learning courses such as Writing as a Process, and phased out classes that were remedial, adding instead supplemental classes for students taking advanced course work to keep them on track. Then benchmark assessments, which group questions by the state standards, were scheduled quarterly for each course as part of a districtwide effort of Garden Grove Unified Schools. But helping

Bolsa G

competition will award 10 prizes each at the elementary, middle and high school levels in order to develop the schools’ curricula in these technical subjects. First-through third-prize winners will receive \$15,000, \$7,500 and \$3,000, respectively, with those competitors placing fourth-through tenth-place receiving \$500 grants.

WISCONSIN—Officials of the School District of Waukesha are planning a science and technology charter school due to the success of its Academy of Health Professions, which opened two years ago inside Waukesha South High School with the purpose of attracting students into the medical fields. The new school, which is expected to open by fall 2007, will be a

continuation of the district’s Project Lead the Way, a national instructional program geared to increasing student interest in the fields of engineering and engineering technology. District officials forecast a minimal cost for the new charter, which will bring in new students through Wisconsin’s open-enrollment program.

students who do not speak English fluently to meet grade-level standards undoubtedly has been a challenge. Even more difficult is helping students who are illiterate not only in English but also in their native language.

“When they’re at the really low levels,” said Kelly Anderson, chair of the school’s English Language Department, “it’s long and arduous to get them up to a level where they’re actually able to be self-sufficient and successful. ... When it comes so easy to others, as a teacher that’s hard sometimes to watch.”

Also difficult is the fact that very few students can practice their new language skills at home, where most parents speak only in their native tongues.

However, added Anderson, the challenges sweeten the rewards, pointing to senior *Ngocanh Tran* as an example. Born in Vietnam, *Tran* came to the United States in the last semester of eighth grade, afterwards enrolling at *Bolsa Grande* as a basic-level speaker. In just a few years she worked her way up to junior English, passed all of the high school exit exams, and is planning to attend a local community college after graduation. “I got better at English because of my teachers, the way

From left to right: Principal *Denise Jay*; English language teacher *Kelly Anderson*; and junior *Phuong Tran* with senior *Ngocanh Tran*. On the cover, senior *Raquel Garcia*. Photos by *Ann Johansson*.

they explain the questions to me when I have problems,” said *Tran*, who is a member of the water polo club coached by *Anderson*.

In another success story, *Raquel Garcia*, representing the second largest language group at *Bolsa Grande*, came from Mexico in search of better medical attention for her hearing loss. Today, in her senior year, she is on the honor roll with plans to major in psychology. “Education is real important for me,” said *Garcia*. “If I don’t have education, I cannot be somebody.”

What they lack in language proficiency, said *Anderson*, English language learners more than make up for in their eagerness to learn. This is why many of the students, who also include native speakers of Korean and Arabic among 29 other different languages spoken at the school, do exceedingly well, and why the 2003 graduation rate for every ethnic group is above the 90-percent mark.

“If you’re going to be successful in teaching English language learners, you have to have energy and passion,” said *Tom Cardoza*, who has been teaching at *Bolsa Grande* for 22 years. “You have to care about these kids and about how you’re going to teach them. You have to care about their success.”

The teamwork and dedication of *Bolsa Grande*’s 70 teachers amid language and

poverty barriers are largely credited for English proficiency scores increasing from 32 percent in 2002 to 55 percent in 2005, and math scores from 38 percent to 60 percent, and for gains in every subgroup.

Collaboration among the faculty is facilitated through what the school calls “reflection meetings.” In these sessions,



staff members focus on the same standards, curriculum, assessments and pacing schedule, and thereby are able to draw common solutions from comparable data and objectives.

In having the same expectations for all their students, said *Jay*, staff have learned to resist the tendency to shelter their English language learners from more demanding course work. “We’re compassionate, we listen, we encourage and support,” she said, “but because they’re crying we don’t pull them out of it. Because we know when they leave here they’re going to enter right into the real world.”

—BY NICOLE ASHBY

Bolsa Grande High School



- > **Grade Span:** 9–12
- > **Locale:** Large city
- > **Total Students:** 1,596
- > **Race/Ethnicity Enrollment:** 53% Asian, 37% Latino, 9% white, 1% black
- > **Free or Reduced-Price Lunch Eligible:** 67%
- > **English Language Learners:** 42%
- > **Special Education Students:** 8%
- > **Percentage Proficient:** In math, 59.7%; in English, 55% (based on ninth- through 11th-graders assessed on the 2005 state exam).
- > **Interesting Fact:** Vietnamese and Spanish are among 29 different languages spoken at *Bolsa Grande*, which also include Korean and Arabic.

February 19–25

National Engineers Week, a celebration sponsored by the National Engineers Week Foundation to raise public awareness of the importance of having a high level of math, science and technology literacy. Among the events is Introduce a Girl to Engineering Day on Feb. 23, for which the goal is to mobilize 11,000 women in engineering to mentor more than 1 million girls. For more activity ideas, including resources for inspiring youths to pursue engineering careers, visit www.eweek.org or call (703) 684-2852.

March

National Women's History Month, an observance sponsored by the National Women's History Project to recognize the contributions of women to American culture. The group is hosting a contest for the best project by a school, community organization or workplace operation that expounds on this year's theme, Women: Builders of Communities and Dreams. The deadline for submission is April 15. For more information, contact www.nwhp.org or call (707) 636-2888. For a selection of online resources observing women's history, visit the Federal Resources for Educational Excellence (FREE) Web site at www.ed.gov/free, which includes links to research about the women's suffrage movement and profiles about female pioneers of NASA.

The U.S. Department of Education is accepting nominations for its 2006 American Stars of Teaching awards, which recognize innovative teachers who are making a difference in their students' lives. Nomination forms, available at www.ed.gov/teacherinitiative, are due April 15.



Q & A

G L O S S A R Y

How do I determine if a school is accredited?

With the increasing importance of a college education in today's competitive market, attending an accredited school—one that has met certain quality standards—is essential.

The U.S. Department of Education, however, does not accredit colleges, universities or other postsecondary institutions. Accreditation in the United States is done by accrediting agencies, which are private regional or national associations that have developed criteria for evaluating institutions or programs to determine whether or not they are operating at basic levels of quality. For a list of these agencies and other related information, visit the Department's Web site at www.ed.gov, select the link "A–Z Index" and then "Accreditation."

The Department also provides a list of approximately 6,900 postsecondary institu-

tions and programs that have been accredited. This database at www.ope.ed.gov/accreditation is recommended as one source of qualitative information in the student's selection process. To determine if a school or program is going to meet your needs, in addition to checking its accreditation status, contact the institution you might be interested in attending as well as prospective employers, and, if possible, visit the school.

In addition, to help avoid the traps of "diploma mills" that offer fraudulent degrees with little course work at a flat fee, the Federal Trade Commission recently released a new publication, *Avoid Fake-Degree Burns by Researching Academic Credentials*, which is available at www.ftc.gov.

accreditation: recognition of a school or program by a national or regional organization that has developed evaluation criteria for ensuring that academic quality standards are met.

News Show Tackles Math, Science Lag

With national attention turned to efforts to create a new generation of innovators who will lead America in the 21st century, the February edition of *Education News Parents Can Use*, the U.S. Department of Education's monthly television program, will focus on math and science education.

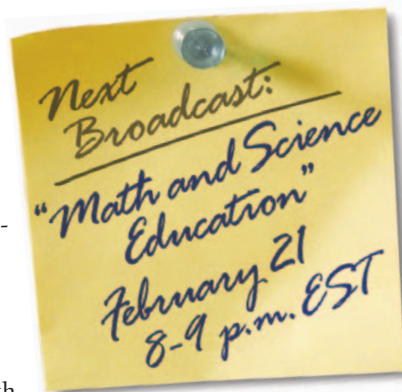
As recent statistics reveal a gap in these fields—one international study showed U.S. 15-year-olds rank 24th in the industrialized world in math comprehension—the news show will explore: the definition of "global economy" and its demands of the nation's education system; how the *No Child Left Behind Act* and related

Department initiatives are helping to strengthen math and science education; how parents can encourage their children to learn math and science outside the classroom; and what students should be learning in math and science in the elementary, middle and high school grades, as well as what changes

are needed in the way these subjects are currently being taught.

Each month, *Education News Parents Can Use* showcases: schools and school districts from across the country; conversations with school officials, parents and education experts; and advice and free resources for parents and educators.

To learn about viewing options, including webcasts, visit www.ed.gov and click on "Parents," then "News Parents Can Use," or call toll-free (800) USA-LEARN.





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Building Choice

To help ensure parents have the information they need to make decisions regarding their children's education, the U.S. Department of Education recently unveiled a new Web site for building choice within the public school system.

BuildingChoice.org is a new online toolkit that provides a variety of practical resources based on diverse school districts across the country that have created voluntary public school choice programs.

With a growing number of students no longer routinely attending their neighborhood

schools, the site covers a range of options for parents who feel their

children's needs may be better met elsewhere, for example, at an arts magnet school, a charter technology high school, or a media academy operating within a larger school.

For school district leaders either implementing or improving a public school choice program, the site's tools are organized around five action areas: creating a vision; communicating with parents; managing operations; supporting schools; and evaluating the program. Included are downloadable sample materials that can be adapted for specific program use.

In addition, a 26-page illustrated companion to the Web site, *An Invitation to BuildingChoice.org*, is available free of charge by calling (877) 4ED-PUBS with identification number EU0159P, while supplies last.

BuildingChoice.org is a project of the Department's Office of Innovation and Improvement and is an online complement to its popular *Innovations in Education* book series.



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