

November 2011

Welcome to INNOVATOR, an update on secondary school change from the North Carolina New Schools Project. Our newsletter is designed to inform practitioners, policymakers, and friends of public education on innovation, research and success stories from secondary schools. Feel free to [contact us](#), provide feedback and suggest article ideas.

Help wanted: Employees with advanced skills



Mary Linda Andrews
Director of
Community Partnerships
for GlaxoSmithKline

Hardly a week goes by without a new report or study making a compelling argument for schools that better prepare students for the increasingly competitive world that awaits them after graduation. One of the latest, a [report](#) last month by the U.S. Chamber of Commerce, helps show why that's so important - both to individuals and businesses.

Even at a time of high unemployment, the report says, 3 million positions remain unfilled, many because of a gap between the skills that employers need and the skills that job-seekers have attained. More than half the employers in a survey used for the report say their companies face a significant challenge in recruiting non-managerial employees with the skills, training and education their company needs.

Perhaps nowhere is that issue more pronounced than for jobs requiring strong skills in science, technology, engineering and math - STEM in shorthand - that for technology companies such as GlaxoSmithKline are so critical. It's now simply a given that jobs that demand competence with those kinds of skills will continue to shape the workforce here in North Carolina and across the nation. Consider that GSK and companies like it face a significant challenge during the next 10 years of just finding replacements for the many thousands of baby boomers who will be retiring. Economic development in the state hinges on the growth in businesses and industry that depend on STEM know-how to succeed.

The help-wanted sign will be out, but will the help be qualified for the job?

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STEM degrees lag

Recent [data](#) from the National Center for Education Statistics show that proportionately fewer degrees earned in North Carolina's two- and four-year colleges and universities are in STEM-related fields. While the state saw a 40 percent increase in all degrees awarded between 2001 and 2009, STEM-related degrees increased by just 11.5 percent.

Degrees in STEM fields grew at a slower pace ...

NC leaders honor schools for graduating all



Schools developed through partnerships with the North Carolina New Schools Project were well represented at an event last month honoring high schools in the state with the best graduation rates in 2011. NCNSP-affiliated schools accounted for 11 of the 32 schools, and among schools that posted perfect, 100 percent rates, the 11 innovative schools represented nearly half the 23 schools that earned a spot in the "100% Graduation Club."

The high schools were honored by State Superintendent June Atkinson, Lt. Governor Walter Dalton and State Board of Education Chairman Bill Harrison, who also recognized 10 school districts for strong graduation results.

The 11 NCNSP-affiliated schools were among 73 break-the-mold schools supported by the NC New Schools Project with graduating classes in 2011. More than half the schools - which all share a common goal of graduating all students well prepared for college, careers and life - graduated at least 90 percent of the students who were counted among the freshman class four years earlier.

The combined graduation rate among all 73 of the schools was 85.6 percent, compared to 77.9 percent for all high schools in the state. Ten of the 11 NCNSP-affiliated schools with perfect graduation rates are early college high schools, where students earn a tuition-free associate degree or as much as two years of transferrable college credit along with their high school diploma.

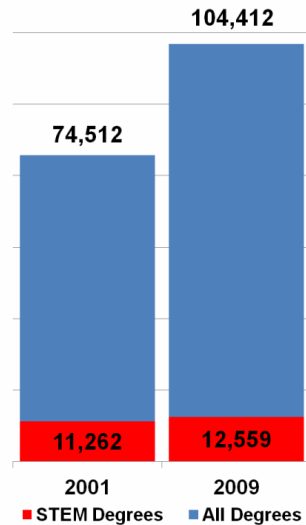
In 2010, NCNSP-affiliated schools accounted for four of the 11 schools that comprised last year's "100% Graduation Club."

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Teachers share strategies at STEM symposium

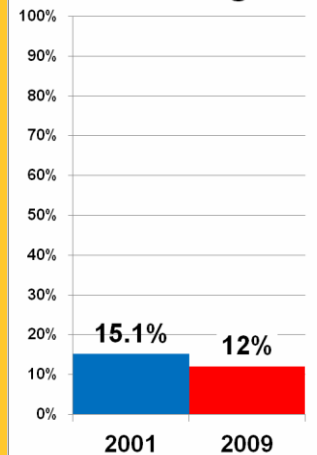
More than 80 teachers and principals from over 30 schools affiliated with the North Carolina New Schools Project met last month in Charlotte to share and expand upon strategies now being used by the state's pioneering network of schools that emphasize science, technology, engineering and mathematics (STEM) education. The growing network of STEM schools is a part of a comprehensive approach to STEM education being led by the N.C. Department of Public Instruction and the State Board of Education.

Degrees earned in NC



... shrinking their share of all degrees earned

NC STEM degrees



Source: National Center for Education Statistics
Postsecondary Awards in Science, Technology, Engineering, and Mathematics, 2011

Meet an Innovator





Harris Muhlstein
Science teacher
Brunswick Early
College High School

Participants at the STEM Common Practices Symposium heard from experts in STEM fields to learn more about issues and current research around the schools' economic themes: health and life sciences; energy and sustainability; biotechnology and agriscience; and aerospace, advanced manufacturing and security. Based on the particular focus of their schools, educators tapped the knowledge of experts working in those fields. The conference also explored varied approaches to implementing the "E" in STEM for integrating the engineering design process into all curricular areas.

"North Carolina is emerging as a national leader in STEM education," said June Atkinson, state superintendent for the N.C. Department of Public Instruction, which is a key partner in the project. "Our success rests upon teachers who make deep connections

into business and industry and who succeed in preparing students for a college and work-ready standard of performance."

[Read more ...](#)

NC hosting national STEM conference in 2012



As North Carolina emerges as a leader in science, technology, engineering and mathematics (STEM), North Carolina is poised to host a national conference focused on STEM education. Eight organizations are partnering to offer

"S2:TEM = Scaling STEM: Transforming Education Matters" on April 16-18, 2012, at the Sheraton Imperial Hotel in Durham, N.C.

A globally competitive, knowledge-based economy is a fact of life for North Carolina's high school students, and strong skills in STEM-related fields will be in high demand for years to come. At the conference, educators, students, innovators and leaders from business and government from North Carolina and across the nation will share strategies to implement STEM practices and demonstrate STEM impacts in the community.

"Our success rests upon educators and industry leaders who make deep connections around STEM in order to prepare students for college and careers," said Tony Habit, president of the NC New Schools Project. "By bringing together the best ideas from across the nation, we can make a significant and positive change in the way schools engage students in these critical fields."

[Read more...](#)

Jodi Anderson

Opening a new school is a big challenge. Launching a new school brings problems that principals in innovative schools don't have to solve alone.

With support from Jodi Anderson, director of the North Carolina Center for Educational Leadership at the NC New Schools Project, all principals in NCNSP-affiliated schools receive professional development and coaching services to help them navigate this new territory.

"The old model is principal-as-manager," Anderson says. "An innovative principal must be able to communicate with and influence a wide range of people, be knowledgeable about instruction and develop strong relationships with all stakeholders at the school."

In traditional high schools, principals lead a team of assistant principals, each of whom is responsible for a specific area - discipline, instruction, and so on. This hierarchy usually doesn't exist in innovative schools.

[Read more ...](#)

More news about secondary school innovation ...

[Teachers improve by opening their classrooms to counterparts visiting from other schools ...](#)

The Salisbury Post joined educators visiting Rowan County Early College during a recent "peer review," a professional development strategy promoted by NCNSP to strengthen teaching and learning.

[Two NCNSP-affiliated schools recognized among 14 NC schools for turnaround performance](#)

[...](#)

Middle College at Bennett and Middle College at N.C. A&T were among 14 high schools across the state highlighted for strong gains since landing on a list of the state's lowest performance five years ago.

[The percentage of STEM degrees earned by black students has slipped during the past decade](#)

[...](#)

The Associated Press explores the issue from various perspectives, including that of Mae Jemison, the first black woman astronaut.

[Many STEM majors in college change their minds because of daunting courses ...](#)

The New York Times explores a trend that is contributing to the nation's shortage of scientists, engineers and mathematicians.

[... but college majors matter to job seekers and to the nation's economy as a whole ...](#)

Some majors (namely in STEM areas) are just more marketable, according to a recent report summarized in this New York Times blog.