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COLLEGE AND CAREER READINESS: K-12 AND HIGHER EDUCATION COLLABORATING FOR STUDENT SUCCESS

By Buddy Harris, Policy Analyst

North Carolina's economy has experienced a remarkable transformation during the past 60 years. Best known for tobacco and hog production during the mid-20th century, North Carolina is now a leader in banking, medicine, bioengineering, and technology. Top-tier universities and research institutions, a favorable business climate, and abundant natural resources have drawn companies from all over the world to relocate to North Carolina, bringing along career opportunities for well-trained, skilled workers.

Unfortunately, too many students are not prepared to take advantage of these opportunities, either failing to earn a postsecondary degree or lacking the required skills to move into the workforce after graduating from high school. The stakes for North Carolina's students could not be higher. Experts predict that by 2018, **59 percent of all jobs in North Carolina will require some type of postsecondary degree or training**, yet the state's workforce does not have the education required to meet this demand.¹ In 2011, only 38 percent of North Carolinians age 25 to 64 had an associate's degree or higher, ranking North Carolina 27th out of 50 states.²

A more educated, highly skilled workforce, with students who graduate from high school college and career ready, depends on higher expectations and tougher standards. Whether planning to attend a four-year institution or certificate program for a skilled trade, North Carolina's students are being challenged by the academic rigor necessary for their success. Students need to leave each education level ready to meet the demands of the next, and this seamless transition requires cross-sector collaboration.

This issue of *coNCepts* examines the ways North Carolina's K-12 and higher education systems are working together to ensure college and career readiness for all students by aligning K-12 with postsecondary expectations, creating clearly defined pathways for career training and college preparation, and forming robust partnerships with industry.

PREPARING FOR CHANGING WORKFORCE DEMANDS

In 2013, 82 percent of North Carolina's seniors completed high school within four years, the highest graduation rate in the state's history.³ From 2006-2011, the number of students taking AP exams grew by 15.9 percent, and the number of those students scoring at a high enough level to qualify for college credit grew by 21 percent.⁴ By many measures, student achievement in K-12 is improving.

These data, however, don't tell the entire story. Almost two-thirds of high school students graduate without the knowledge and skills needed to enter credit-bearing coursework in college. In 2011-2012, nearly 65 percent of first-time, credential-seeking North Carolina community college students were enrolled in at least one remedial course in English, reading, or math.⁵ While the number of incoming students at the 16 University of North Carolina campuses taking remedial courses has dropped 16 percent for unduplicated enrollment during the past two years, 3,900 students still require remedial courses to catch up to their peers.⁶ **As these data show, success in high school often does not translate into postsecondary readiness.**

The lack of college readiness among incoming students can have devastating effects on long-term outcomes. Remedial courses, for example, slow progress towards degree or certificate attainment, increasing the likelihood of dropping out due to academic, personal, or financial reasons. Nationally, **less than 25 percent of students at two-year institutions who take remedial courses ultimately complete a degree or certificate program.**⁷ The University of North Carolina recently began reporting this degree-completion data, noting that 45 percent of students who had taken a remedial course eventually graduated from one of the system's institutions within six years compared to 66 percent for students who did not take remedial courses.⁸

Much work remains, but North Carolina's K-12 and higher education leaders are working together to address the preparation deficiencies reflected in these remediation rates. To ensure that all students graduate ready for success in their postsecondary endeavors, North Carolina is working to align expectations across systems, create clearly defined pathways for student success, and form robust partnerships with business and industry.

Aligning Expectations

A recent national survey of K-12 and postsecondary educators found that 89 percent of high school teachers considered their students "well" or "very well" prepared for college, while only 26 percent of college instructors agreed.⁹ This finding, one of several highlighted in *The ACT National Curriculum Survey 2012*, illustrates a lack of clarity about what it means to be college ready and a general lack of coordination between K-12 and higher education on standards and expectations.

In 2010, North Carolina set out to address the readiness gap, launching *NC READY*, a comprehensive initiative designed to prepare all students for postsecondary success. **A complete overhaul of North Carolina's K-12 academic standards was an essential first step.** The standards, which are more rigorous and challenging at every grade level, emphasize college and career readiness — the skills and knowledge that students need to be successful in a credit-bearing college course or entry-level job. This revision of the *North Carolina Standard Course of Study* has two parts: the NC Essential Standards and the Common Core State Standards (CCSS). The NC Essential Standards are the grade-level standards for subjects, including social studies, science, arts education, and career and technical education (CTE). The CCSS are the standards for English language arts and mathematics.

The state's more rigorous standards serve as the foundation for cross-sector college and career readiness partnerships. Launched in 2012, *NC Ready for Success*, is a collaborative effort that brings together the NC Department of Public Instruction (NCDPI); the University of North Carolina (UNC); the NC Community College System (NCCCS); NC Science, Math, and Technology, Education Center (NCSMT); and NC Independent and Private Colleges and Universities (NCIPCU) to improve college and career readiness among students. During the past year, *NC Ready for Success* has convened alignment teams made up of district education leaders and university faculty and administrators to identify gaps in K-12 and higher education collaboration and work toward building resources to facilitate CCSS alignment.¹⁰

It is also important to provide students and their parents with information about whether or not they are on-track to meet the new college and career ready expectations. As part of *NC Ready for Success*, NCDPI has partnered with ACT to administer a series of college-readiness assessments: EXPLORE (8th grade); PLAN (10th grade); and ACT (11th grade). Beginning in 2011-2012, PLAN and ACT were administered to all 10th and 11th graders free of charge. These assessments inform students, parents, and educators about the student's current academic trajectory, as well as where further interventions and support are required.

Students who are not achieving at a college-ready level in the 11th grade will be eligible for intensive intervention to bolster their skills in mathematics and literacy, before they require remediation at the postsecondary level. North Carolina is currently working with the Southern Regional Education Board to revise piloted course units, train teachers, create a *Ready Course Implementation Guide*, and devise a program evaluation plan.

Creating Pathways

Postsecondary education's lifelong financial benefits are clear. Students who obtain bachelor's degrees earn, on average, 84 percent more than high school graduates over a lifetime.¹¹ Students today have more options than ever before to gain valuable skills for jobs in the emerging economy. Associate's degrees, vocational certificates, and licensing certificates play important roles in preparing tomorrow's workforce, and **North Carolina's readiness strategy includes pathways for students who choose higher education or career opportunities.**

For students who maintain "B" averages, *North Carolina Career and College Promise* offers students three career and college pathways. High school students can: 1) earn transferrable credit at many of North Carolina's community colleges and four-year institutions; 2) earn a credential or certificate in a technical field; and 3) earn high school and college credit through cooperative high schools. **Expanding career and technical options, along with higher education opportunities, is a**

cornerstone of North Carolina's evolving education policy.

During the 2013 Legislative Session, **Senate Bill 14** was the first law passed, directing the NC State Board of Education to **create three endorsements for high school diplomas**, including two CTE pathways. Intended for students with career rather than college aspirations, the legislation seeks to increase the number of students enrolling in CTE programs and prepare them with job-ready skills.

However, simply completing a CTE pathway is not enough: **the research on changing workforce demands points to the growing importance of credentials.** According to the *North Carolina Career and Technical Education 2011-2012 Credentialing Data Report*, the state now offers 48 different skills assessments (see *Credentialing Categories*). Many high school students are taking advantage of opportunities to earn credentials in general office applications such as Microsoft Office®, but others earn credentials in industry-specific areas like NC State Fire Marshal Modules or Pork Quality. These

credentials confirm CTE skills learned in high school — ensuring readiness for further study and work towards advanced certification.

In addition to statewide efforts to more clearly define pathways from K-12 through postsecondary training and careers, there are several other innovative opportunities available to students in some regions or districts:

- **Pathways to Prosperity:** In 2012, North Carolina became one of six states participating in the *Pathways to Prosperity Network*, a collaboration of the Harvard Graduate School of Education, Jobs for the Future, NCDPI, NC New Schools Project, and NCCCS. **The Network creates clear career pathways integrated into high school and community college curricula, identifies and partners with employers committed to transitioning young people to the labor market, provides an early advising system to educate students about career opportunities, and develops a support infrastructure for pathway sustainability.**¹²

Credentialing Categories

Credentials available to North Carolina students fall into three categories:

- **State-issued Professional Licenses**

Secondary Career and Technical Education licenses reflect the attainment of essential skills required for specific jobs, such as cosmetology.

- **Certificates**

Certificates reflect the general skills needed in order for students to be successful in a particular field. The WorkKeys Career Readiness Certificate® is an example.

- **Completed Industry Certifications or Pathway Examinations**

Completed industry certifications can potentially lead to jobs immediately following high school, though many reflect only an important component of a job. The Microsoft Office® Specialist certification, for example, reflects an important skill set for many entry-level positions, whereas the Certified Nurse Aide I certificate might fully qualify a student for a job.

Pathway examinations are assessments that typically represent a step in attaining a broader certification that requires multiple assessments.

Source: *North Carolina Career and Technical Education 2011-2012 Credential Data*

The North Carolina Pathways leadership team convened in the summer of 2013 and identified seven industry focus areas for the Southwest and Northeast pilot regions: **Transportation, Distribution, and Logistics; Biotechnology; Healthcare and Health Science; IT; Advanced Manufacturing; Sustainable Technologies; and Financial Services.** The Pathways partners convened meetings of regional stakeholders throughout 2012-2013 to develop the career pathways and build the network.¹³

- **Early College High Schools:** First launched in North Carolina in 2004, early college high schools, along with dual enrollment programs, provide college course access to high school students who might have never previously considered college and reduce time to degree completion by allowing students to graduate from high school with college credits. **National analyses found that 75 percent of early college high school graduates earned some college credit, and an additional 10 percent earned enough credits for an associate's degree.**¹⁴

NCDPI, working in collaboration with North Carolina New Schools Project, UNC, and NCCCS, designed these innovative schools to address challenges facing many low-income students. **The first two years of college are when students are most at risk of**

dropping out, and through the early college high schools, students are allowed to earn college credit at no cost to them or their families.

The Northeast Regional School of Biotechnology and Agriscience, an early college high school in Plymouth, NC, illustrates the value of cross-sector collaboration as it connects education to career possibilities and multiple pathways for success (*see box below*).

Partnering with Industry

In a recent survey of North Carolina business leaders, 63.4 percent of participants responded that in-house training has become a major burden due to underprepared entry-level workers.¹⁵ Higher education's partnerships with industry are critical to addressing this problem. NCCCS, UNC, NCIPCU, and NCDPI are collaborating with industry to grow the economy and ensure opportunities for their graduates.

North Carolina's community colleges work hand-in-hand with government and business leaders to train highly skilled workers, often providing customized programs for specific industries. **Lenoir Community College's (LCC) partnership with Spirit AeroSystems** exemplifies how training programs can prompt industry expansion. **The quality of instruction provided by LCC's Spirit Composite Center of Excellence Training Center has prompted other aerospace manufacturers such as FRC East, Mountain Air Cargo, and AAR to relocate to the area.**

When asked what makes this partnership, and others, in community colleges around the state work, NCCCS President (Dr.) Scott Ralls attributed the system's success to three characteristics:

- **A genuine relationship** among the community college, the company, and the government entities engaged in workforce development;
- **Evolving partnerships** that generally begin with a technical education program, often leading to a degree or certification for mid-level employees and managers; and
- **Apprenticeships and structured work** components included in each program, helping students connect their academic training with skill application.

Biotechnology is an example of a specialized industry dependent on collaborations with higher education to supply its workforce. Biotech is a pillar of North Carolina's changing economy, but it faces many of the greatest workforce challenges. In 2002, leaders from the biomanufacturing sector, and education leaders from North Carolina's university and community college systems, came together to address these challenges. During the past decade, *NCBioImpact* has emerged as a model collaboration for workforce development, catalyzing the formation of:¹⁶

- **BioNetwork:** NCCCS's network of seven centers that provide expertise

The Northeast Regional School of Biotechnology and Agriscience

The Northeast Regional School of Biotechnology and Agriscience (NERSBA) exemplifies North Carolina's efforts to forge collaborations among K-12, higher education, and industry partners. Located in the Vernon James Research and Extension Center in Washington County, NERSBA is designed to be a model for regional STEM education. NERSBA draws from five local school districts: **Martin, Pitt, Washington, Tyrrell, and Beaufort**, and is being supported by the NC Department of Agriculture, the NC State Board of Education, NC State University College of Agriculture, NC New Schools Project, the NC Biotechnology Center, and the JOBS Commission.

to support biotech workforce training at all 58 community colleges;

- **Biomufacturing Research Institute and Technology Enterprise (BRITE):** Located at North Carolina Central University, BRITE concentrates research in drug manufacturing and technology, along with offering a pharmaceutical science bachelor's and graduate degrees; and

- **GoldenLEAF Biomufacturing Training and Education Center (BTEC):** This research facility at North Carolina State University houses laboratories and classrooms designed for research and biomufacturing skills training.

Collaborations such as *NCBioImpact* address the workforce challenges of today and contribute to the technologies of the future. A similar partnership has been forged with the United States military commands located in North Carolina.

Through the UNC Partnership for National Security, UNC works with North Carolina-based units, including the Maritime Civil Affairs and Security Training Command (MCAST), U.S. Army Special Operations Command (USASOC), and Marine Corps Forces Special Operations Command (MARSOC) to smooth the academic transition for veterans and train workers for the defense industry.

The Master's of Physician Assistant Studies for Veterans Program

Beginning in 2015, the University of North Carolina School of Medicine is launching its Master's of Physician Assistant Studies for Veterans program in collaboration with the U.S. Army Special Operations Command at Fort Bragg and Blue Cross Blue Shield of North Carolina (BCBSNC). **The program will bridge the gap between battlefield experience and the academic training required to become a physician assistant.**

BCBSNC has pledged \$1.2 million toward the development of the program. According to Brad Wilson, BCBSNC president and CEO, the program does more than offer an opportunity for medics to continue their education; it fills a growing need for many families around our state.

Physician assistants will be central service providers as the country faces a shortage of primary care physicians. Creative pathways for proven medical professionals, according to Wilson, will be key to addressing this challenge.¹ The program will particularly benefit rural communities in North Carolina, as most students will practice in underserved areas once they complete their degrees.

Source: Department of Allied Health Sciences, UNC. 2013 Proposed Physician Assistant Studies for Veterans

MOVING TOWARD READINESS

North Carolina has set a course for college and career readiness for all students. The state's economy depends on it, and North Carolina is making significant strides in aligning K-12 standards with higher education's expectations. Alternative pathways for academic and career training are being developed and scaled statewide, and institutions of higher education are taking the lead on industry partnerships.

College and career readiness takes cross-sector collaboration, and although there is more work to do, North Carolina is making important progress to ensure that all students are on a path to success.

Considerations for NC Policymakers

Key Points

- New academic standards were adopted to align high school achievement with the skill attainment needed for postsecondary success.
- College and career readiness for all students is more likely attainable when institutions of higher education and K-12 collaborate.
- Institutions of higher education are partnering with K-12 to ensure standards alignment, develop alternative models from degree attainment, and create career-focused opportunities in CTE pathways.
- An educated workforce is fundamental to economic development in North Carolina. Institutions of higher education are uniquely positioned for industry partnerships that support human capital.

Questions to consider:

- Are colleges and universities at the table when recruiting businesses?
- Are regulatory changes necessary to encourage education and industry collaboration?
- What further steps could the legislature take to support college and career readiness for North Carolina's students?

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