

Career and Technical Education: New Jersey's Pathway to Prosperity

Just as last century's launch of the Sputnik satellite and the *Nation at Risk*¹ report galvanized our nation to confront educational weakness, the deep recession and emerging recovery demands urgent action to better align public education with workforce needs.

Employers today face a growing need for skilled workers, and the “new normal” that evolved from this recession leaves them struggling to find candidates with the academic, career readiness and technical skills needed to fill current and future jobs.

At the same time, students are facing higher academic expectations and educators are searching for effective strategies to engage students and increase their achievement levels.

As New Jersey begins to recover from the deep recession, there is increasing recognition that career and technical education (CTE) sits squarely at the crossroads of education reform and economic growth. CTE programs address both student achievement and workforce needs, and they are a critical strategy to ensure New Jersey's continued economic prosperity.

This 21st century “Sputnik moment” calls for a new, statewide partnership involving business leaders, educators, government policy-makers, and students and their parents to support and invest in CTE programs that address critical workforce needs and place students on a pathway to academic and career success.

The Challenge

New Jersey, like many states, was hit extremely hard by the recession that claimed nearly 260,000 jobs in our state. Though job growth continues as the economic climate improves, we have regained just 53% of the number of jobs lost since January 2008², and many employers now find a mismatch between their hiring needs and the skills of job applicants. Companies large and small are struggling to find employees with the academic preparation, technical abilities, and work-readiness skills that meet global marketplace demands.

Large and small employers alike say that while academic achievement is important, it is hard to find entry-level employees who also have essential career readiness skills -- like critical thinking, problem-solving, and communication skills -- as well as “soft skills” like teamwork, punctuality and the ability to follow directions. They struggle to find entry-level employees with these abilities and an interest in pursuing technical positions. This “skills gap” between available positions and under-qualified workers is a significant barrier to economic growth here in New Jersey and throughout the nation.

¹ *A Nation at Risk: The Imperative For Educational Reform*, published in 1983 by the [National Commission on Excellence in Education](#).

² New Jersey Department of Labor and Workforce Development, Division of Labor Market & Demographic Research, Labor Market Information Update for June 2013

New national Common Core State Standards for math and English language arts (ELA), adopted by New Jersey and most other states since 2010, seek to boost academic achievement in grades K-12. These higher standards are intended to ensure that all students master essential math and literacy skills. But while the standards hold promise for improving student learning and achievement, they are largely geared toward ensuring that all students are prepared for college and do not fully address the technical and career readiness skills that employers seek.

A New View of Success

For too long, the current theory of education has emphasized a four-year college degree as the best pathway to success. But data shows that many students have difficulty completing a degree in four years, if at all. And many who do complete their degree programs graduate without a clear career focus, or a plan to achieve their career goals.

Nationally, the College Board reports that just 60 percent of the students who attend public and private four year colleges actually graduate.³ In New Jersey, public and independent four-year institutions outperform the national average with a 65 percent graduation rate, but still one in three students fails to earn a degree.

One factor that significantly impacts college completion is the large number of students who enter college academically unprepared for credit-bearing coursework. The low college completion rates also suggest that when students enter college without a clear focus and a plan for career preparation, they are more likely to get lost along the way. College completion requires dedication and commitment, and if students drift from major to major without accumulating the course credits required for a specific degree, they are more likely to give up.

New Jersey's emphasis on preparing all students for four-year college – and the failure of thousands of well-intentioned students to complete a degree -- ignores the reality that many well-paying career pathways can be launched with an industry certificate or an associate's degree.

The Georgetown University Center on Education and the Workforce projects that approximately 55 million jobs will be filled by 2020, and nearly two-thirds of those will not require a four-year degree. Roughly 17 million jobs will be filled by individuals with a certificate, associate's degree or other sub-baccalaureate training.⁴

Many of these positions will be in well-paying middle-skill occupations that align with New Jersey's key industry sectors: advanced manufacturing; health care; financial services; technology and entrepreneurship; life sciences; transportation, distribution and logistics; hospitality and tourism; and construction and utilities. And many of these jobs will pay as much, or more, than those held by the average bachelor's degree recipient.

Pathways to Prosperity, a 2011 report by the Harvard Graduate School of Education, examined workforce needs and college outcomes and concluded that our nation's system for preparing young

³ College Board "College Completion Agenda" – eight year graduation rate for baccalaureate programs. <http://completionagenda.collegeboard.org/state-performance/state/new-jersey>

⁴Georgetown Center on Education and the Workforce. "Recovery: Job Growth and Education Requirements Through 2020." <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/Recovery2020.ES.Web.pdf>

people for a productive future is “badly broken.”⁵ The study concluded that a narrowly defined “college for all” goal – one that does not include a much stronger focus on career-oriented programs -- seems doomed to fail.⁶

Pathways to Prosperity concludes that the nation needs to increase its focus on career and technical education, and invest in creating “pathways to prosperity” that will give students a roadmap for continued education and career success. The report states that an earlier focus on career-related learning will reduce the cost and time necessary to complete a degree and will likely boost college completion rates, and it calls for an expanded role for employers in developing these pathways to ensure alignment with industry needs and provide more work-based learning opportunities.

Providing more career-focused pathways for students in high school and beyond through enhanced career and technical education will allow New Jersey to address these and other statewide priorities:

- Employers need a strong pipeline of graduates with in-demand technical and scientific skills, as well as strong academic preparation and work-readiness skills
- Parents and students, increasingly concerned about the high cost of college, need educational choices that will launch students on a career pathway with opportunities for lifetime learning and growth
- Students with diverse interests and strengths need multiple pathways to success and prosperity
- Policy makers grappling with the need to increase student achievement and college readiness, as well as high school and college completion rates, need new ways to engage all high school students, including those who may not succeed in a traditional academic setting

Today’s CTE Programs

Unlike many other states, New Jersey already has a strong system of 21 county vocational-technical school districts that provide the kinds of employer-driven CTE programs highlighted in the Harvard Report. These 21st century CTE programs have evolved dramatically from the “vo-tech” programs of the past: They integrate rigorous academic content and technical skills to prepare students for college and *careers*, not just for a specific job.

County vocational-technical schools provide career and technical education programs on a cost-effective regional basis, and they reflect the demands of their regional, state, national and global economies. The trade and service programs traditionally associated with vocational schools are continually updated to address new technologies, such as computerized auto diagnostics and renewable energy.

And newer programs -- like health sciences, engineering, business and finance, and information technology -- challenge and engage students, enabling them to identify career options and plan postsecondary studies with a clear focus and direction. Many of these are linked to postsecondary

⁵ Harvard Graduate School of Education, *Pathways to Prosperity*, February 2011, page 23:

⁶ *Ibid*, page 7

programs, offering college-level courses during high school that enable students to graduate with college credits and industry-approved credentials.

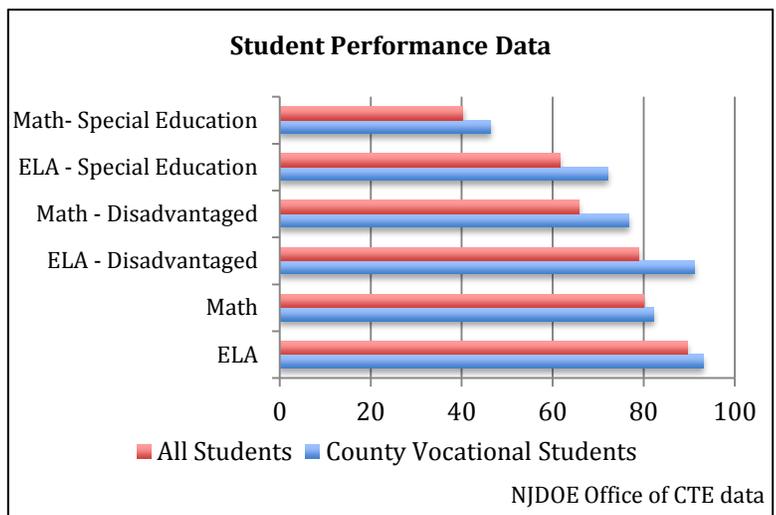
Employers work with county vocational-technical schools to keep programs aligned with industry needs and to develop new programs that address emerging demands. For example, several counties are exploring new advanced manufacturing programs to prepare students for careers in a high-tech manufacturing environment. A consortium of districts is working with several colleges to develop a program in Sustainable Design, Construction and Energy to prepare students for advanced study and careers in a sustainability-focused construction industry.

While CTE has always been an option for students who plan to enter the workforce after high school, today's programs are in high demand by college-bound students too. Project- and technology-driven programs that are challenging and engaging eliminate the outdated stigma of vocational education as an alternative for less-capable students.

In New Jersey, about 70 percent of county vocational-technical school graduates go on to college or advanced technical training with the distinct advantage of a career focus, and they often begin their postsecondary training with a head start on a degree or occupational credential. Graduates who enter the workforce directly have the skills they need for a lifetime of continued learning and training.

Students flock to CTE programs because these classes put academic knowledge into a real-world context and help them identify career interests. And the high achievement level of CTE students demonstrates the value and importance of these programs.

County vocational-technical school career academies – small career-themed schools that emphasize advanced academic and technical skills – have long been recognized as some of the highest performing high schools in New Jersey.⁷ And new statewide data shows that in the aggregate, New Jersey county vocational-technical school students outperform their peers on the High School Proficiency Assessment (HSPA) in both math and English language arts (ELA). Economically disadvantaged and special needs students who enroll in a CTE program often show the most significant gains.⁸



Perceptions of CTE are finally catching up with today's reality of technology-driven opportunities for highly focused young people. Students, parents, employers, and college admissions officers recognize that New Jersey's county vocational-technical schools provide tangible added value to

⁷ NJDOE Rewards Schools and SAT data

⁸ HSPA data for 2011-12, May 1, 2013 presentation to NJ State Board of Education

the high school experience: industry credentials, work-based experiences, college credits, and a career focus that will enable students to excel in college and in the workplace.

Almost 32,000 full-time and shared-time students are currently enrolled at New Jersey's 21 county vocational-technical school districts, but the demand for CTE programs exceeds the space available at most schools. On a statewide basis, county vocational-technical schools get almost 2.5 applications for each available space. In some counties, and for some programs, the demand is much higher. In 2013, roughly 16,700 students seeking CTE programs could not be accommodated.

Recommendations

While New Jersey has an excellent school system that consistently scores near the top on national measures, our state is falling short in meeting the needs of employers and students alike. The new Common Core standards and rigorous end-of-course assessments in mathematics and English language arts are expected to increase student achievement over time, but this academic focus does not address student engagement or the technical and work readiness needs of employers.

Pathways to Prosperity supports the Common Core, but cautions against mandating a narrow college prep curriculum for all. It recognizes that students and employers will benefit from flexible requirements, so that all students can achieve the literacy and math skills they need with sufficient time to pursue the career-related programs that will put them on a pathway to success.

As economic recovery takes root and the state begins to implement new educational standards, it is time for New Jersey to make a significant commitment to expanding CTE opportunities to meet workforce needs and offer all students – no matter what their career interests are -- a pathway to success.

New Jersey needs a new statewide partnership involving business, education, government, and students and their parents, to support policy and investment that will expand career and technical opportunities, shrink the skills gap, and ensure New Jersey's future economic prosperity.

Specific recommendations include:

1. The State and local communities should continue to support county vocational school CTE programs through the School Funding Reform Act formula.

The state school funding formula that provides an additional weight to support the higher cost of hands-on, equipment-intensive CTE programs should be continued without reduction, along with robust county and local support for the shared educational services provided by their vocational-technical schools.

Given the growing demand for county-based CTE opportunities, the state should support the creation of new programs in key industry sectors and expansion of existing capacity. Targeted funding to offset start-up costs will spur development of new programs in key industries. In addition, the school aid formula should support expansion. When a county is able to expand enrollment by more than 10%, the formula should be adjusted to recognize the additional cost of those students in their first year of enrollment. Without an adjustment, the state aid formula

will not fully recognize these new students for several years, making it impossible for counties and local districts to absorb the full cost of expansion within existing tax levy caps.

2. The business community should partner with county vocational-technical schools to identify and address critical workforce needs.

The Harvard study calls upon employers to play an active and aggressive role in providing more students with “pathways to prosperity.” It highlights the success of the employer-driven model of vocational education, and asks employers to work directly with schools to develop CTE programs, mentor and advise students, and provide opportunities for work-based learning that give students real work experience.

A priority need is for industry to identify and articulate their current and future workforce needs by getting involved in county vocational school advisory committees that shape new programs and keep existing offerings aligned with industry needs and standards. Employers can identify long-term trends and emerging skills needs for the future.

At the same time, business leaders can help to promote CTE as a valued pathway to rewarding careers. Students and parents need to hear from employers about career options and opportunities, so that they can understand the value of educational experiences and credentials besides the baccalaureate degree.

CTE programs taught in industry settings should be exempted from school facilities regulations as long as the site meets building codes. Given the immediate shortage of space for CTE expansion, employers can help meet short-term needs by hosting CTE programs and offering work-based learning opportunities to students. A CTE program in an industry setting is a public/private shared service with potential to reduce the need for school facilities and equipment purchases. Creating new programs or shifting some existing programs to an industry setting could potentially free up space in the existing vocational high school.

3. State policy should support multiple pathways to success rather than a one-size-fits-all college preparatory mindset.

Career and technical education must be aligned with Common Core State Standards that promise to propel all students to a higher level of student achievement. However, New Jersey should not require all students to follow a narrow college preparatory curriculum that limits the time available to complete a rigorous career and technical education program. New Jersey must adopt a flexible approach to high school graduation requirements that recognizes achievement of core goals and outcomes rather than seat time, and also considers technical skills and knowledge achieved in CTE programs as part of each student’s achievement record.

K-12 school districts must also increase their emphasis on career readiness. Schools should engage students in career awareness and planning activities beginning in the middle school grades so that students will approach high school and college with more clearly defined educational and career objectives. In addition, middle and high schools should increase their focus on career readiness skills that employers value.

4. The State and local counties should support the expansion of county vocational-technical schools facilities with a shared investment in school construction. NJ should make expanded access to CTE programs a priority use of school construction funds.

The \$50 million earmarked for county vocational school construction in 2008 is insufficient to support the expansion of CTE programs and has been targeted to small projects. Most county vocational-technical schools are currently at capacity and cannot serve additional students without construction of new or expanded facilities. While the release of the remaining \$30 million for vocational school construction will help to address critical renovation and repair projects, these limited funds cannot address expansion needs.

- The state should authorize additional grant funds, along with debt service aid, to encourage the expansion of county vocational-technical school facilities to address economic needs as well as major upgrades to keep programs aligned with industry standards.
- Special priority should be given to counties that wish to convert from shared-time programs to full-time programs that integrate academic and technical content.
- The state should provide an incentive for new construction by offering a higher state share of funding when a project will expand the number of seats available in CTE programs, or convert programs from shared-time to full-time.

5. New Jersey should support joint ventures between county vocational-technical schools and community colleges that address employer needs in key industry sectors and create career pathway opportunities for out-of-school youth and adults.

Joint ventures between county vocational-technical schools and community colleges that leverage existing technical facilities, equipment, and expertise can jump-start the creation of new programs that address employer demand with minimal start-up cost. Such efforts have the potential to increase the number of adults who earn degrees and certificates that prepare them for well-paying, middle-skill jobs in key industry sectors including but not limited to:

- Health care
- Construction trades/HVAC
- Automotive technology
- Hospitality
- Welding
- Manufacturing

A joint program in which the county vocational school provides the facility, curriculum and industry-experienced instructor(s) and the community college provides the general education courses, degree and administrative support could better enable adults with a high school diploma to develop technical skills, and earn stackable credentials leading to a two-year technical degree.

Similarly, the state should support county and regional efforts to establish career pathway programs that enable out-of-school youth to enter a career and technical education program that includes high school diploma completion, and leads to a credential or community college degree.

Conclusion

As New Jersey emerges from a long recession and continues to press forward with a strong education reform agenda, the state is faced with an extraordinary opportunity to strengthen the workforce pipeline and ensure that all students can access a pathway to educational and career success.

The time to act is now – New Jersey employers cannot afford to wait until their workforce needs reach the crisis stage. And students and parents cannot afford the cost of failing to attain a degree and launch a career.

A shared commitment to supportive policies and investment in career and technical education will improve student achievement, boost school and college outcomes, meet employers' needs for a skilled workforce, and ultimately increase the state's economic growth and competitiveness. That is an opportunity New Jersey cannot afford to ignore.

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