

The State of Career and Technical Education in New York City: 2013-2014



**Department of
Education**

Dennis M. Walcott, Chancellor



Dear Valued Partner,

As the economy increasingly rewards educational attainment and competitive job skills the City's public schools are advancing to meet that demand. With 17,000 more students graduating each year than at the start of this administration, the overall four-year graduation rate is at 65 percent – an all-time high– but we can do more. We must ensure every young person in New York City graduates college and career ready, prepared with the skills to compete in a complex economy.

That is why New York has introduced tough new academic standards called the Common Core to help students reach this target. The standards are deliberately challenging, intended to raise the bar to new heights. To qualify for good jobs in the 21st century, our students need to develop strong writing, problem-solving, and creative skills. We know that when we set high expectations, our students rise to the occasion.

Career and Technical Education (CTE) is a powerful complement to the Common Core. CTE schools and programs prepare students not just for the workforce, but also for the challenges of higher education. Between 1960 and 2003, the City did not open a single new career-focused high school. Since 2002, we have created 28 new schools with emphases on film, healthcare, software, and engineering, to name a few. We've seen their exceptional performance on accountability measures – from attendance to credit accumulation to the graduation rates. Locally and nationally, education and industry leaders have hailed CTE as a model that merits greater support and investment.

CTE has enjoyed a renaissance over the last ten years. A focus on industry skills, coupled with rigorous classroom support, has offered students a holistic education and the tools to compete. A key step came in 2008, when the Mayoral Task Force on Career and Technical Education Innovation issued a comprehensive report on challenges and opportunities within CTE. Five years later, the DOE has taken action on all of the Task Force recommendations.

This document highlights why CTE matters so much for our City, why high expectations for CTE students are critical to meeting workforce demands, and what we're doing to help students fulfill their promise. On behalf of the New York City Department of Education, I urge all students, parents, and partners to join us in support of this valuable educational model.

A handwritten signature in black ink that reads "Dennis M. Walcott". The signature is fluid and cursive.

Dennis M. Walcott
Chancellor

A Message to the Business Community

from Stanley S. Litow



In today's economy, motivation and work ethic are necessary for success—but not sufficient. For individuals, companies, and communities alike, educational achievement and mastery of in-demand skills is the key to career success and economic security.

The education system and private industry can best support the next generation of American workers by offering multiple, opportunity-based career pathways that feature an integrated approach to education and training. Educational pathways should have strong business involvement, connections to higher education, and directly align to both market demand and the skills required for a successful career. Those skills include problem-solving, critical thinking, communications, and teamwork—all integrated with rigorous academics.

Career and Technical Education (CTE) can be an educational model uniquely suited to prepare young people for high-reward 21st-century careers. High-quality CTE can provide students with academic preparation linked to workplace skills, such as communication, ethics and teamwork, along with technical skills matched to specific occupational areas. Integrating academic training with the skills required in the workplace will effectively prepare and transition today's students into tomorrow's successful employees.

This is a two-way street. Effective CTE can provide enormous actual value for employer partners as well. Businesses can support CTE by identifying areas of current and future demand, help ensure that curriculum connects to needed technical skill development and workplace competencies, and provide workplace experiences, such as student worksite visits, mentoring,

job shadowing, and internships. Employers who do this effectively can benefit from a pipeline of well-prepared emerging workers who add immediate value from their first day on the job.

IBM demonstrated its commitment to CTE through the creation and replication of Pathways in Technology Early College High School (PTECH), a full partnership with the New York City Department of Education, the City University of New York (CUNY), and IBM. Hailed by President Obama in his 2013 State of the Union address, PTECH is a groundbreaking CTE high school through which students will obtain the skills they need, earn associate's degrees at CUNY, and be placed "first in line" for jobs at IBM. This school has already made a powerful positive difference for the students who pass through its doors—and also for IBM, since it is directly connected to IBM's needs for a highly skilled workforce.

The next frontier for K-12 educational reform lies in close partnerships with the private sector and higher education, creating a strong and seamless pathway from education to career. We are committed to continuing this work and it is our hope that the business community in New York City will join with us.

Stanley S. Litow is IBM's Vice President of Corporate Citizenship & Corporate Affairs and President of IBM's Foundation. He heads global corporate citizenship and corporate social responsibility at IBM.

Career-focused education

has a long and proud legacy in New York City. Through the early decades of the 20th century, New York opened 18 vocational schools, the best of which successfully prepared generations of young New Yorkers for career-track employment.



Integrating academic training with the skills required in the work place will effectively prepare and transition today's students into tomorrow's successful employees.

THE RISING REQUIREMENTS OF CAREER READINESS

The latest information on shifting labor market trends shows greater rewards for those with higher educational attainment and confirms the urgency that education—at the middle school and high school levels—must include both rigorous academics and career-relevant training. In 2012, individuals with a bachelor's degree or higher were about half as likely to be out of work than those who completed high school only. By 2018, researchers have found that more than 63 percent of jobs will require a postsecondary education credential—more than double the 28 percent figure of 1973.

Rigorous Academics

The Common Core standards provide clear guidance on the skills and knowledge every student, from pre-

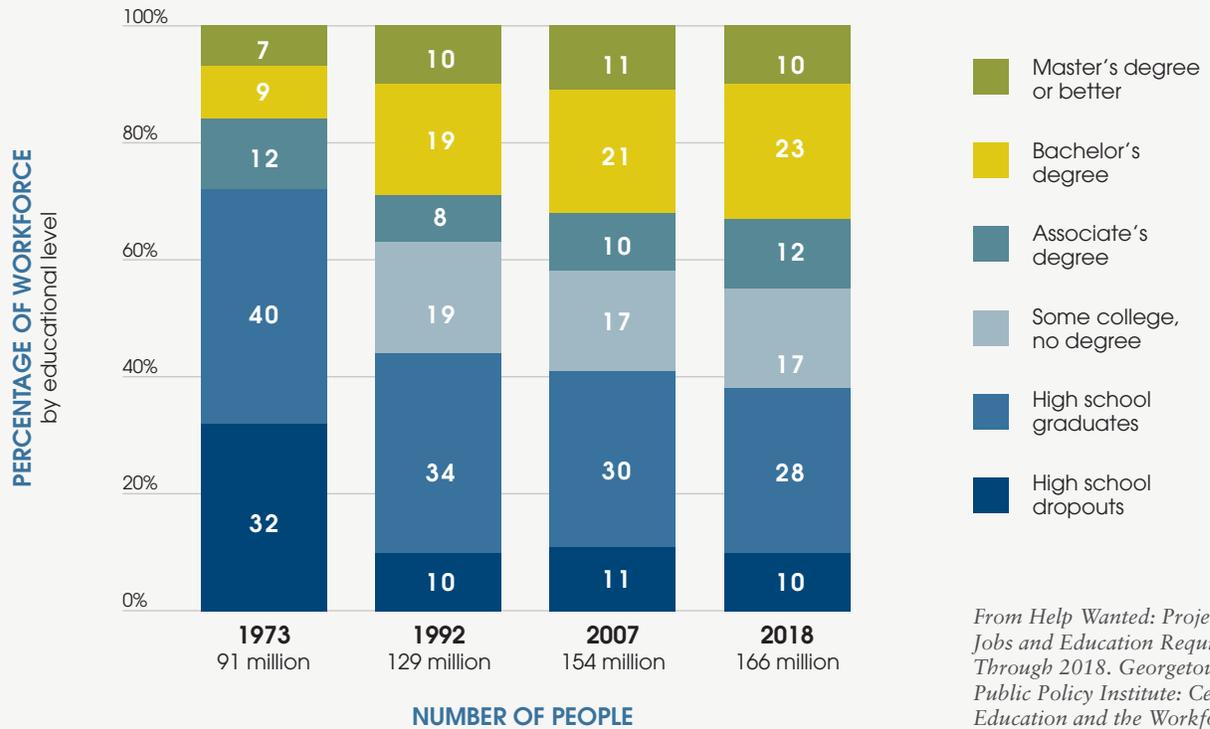
kindergarten through twelfth grade, needs to graduate high school college and career ready. Students are being asked to write more, think critically, defend their ideas, and work in teams to solve real-world problems—the very skills colleges and employers consider when evaluating applicants.

Career-Relevant Training

Effective Career and Technical Education faithfully mirrors changes in the labor market while offering college-level rigor and clear relevance to the world students see outside their schools every day. CTE schools and programs demonstrate innovation in curriculum, commitment from industry and postsecondary partners, and a thoughtful and progressive approach to work-based learning.

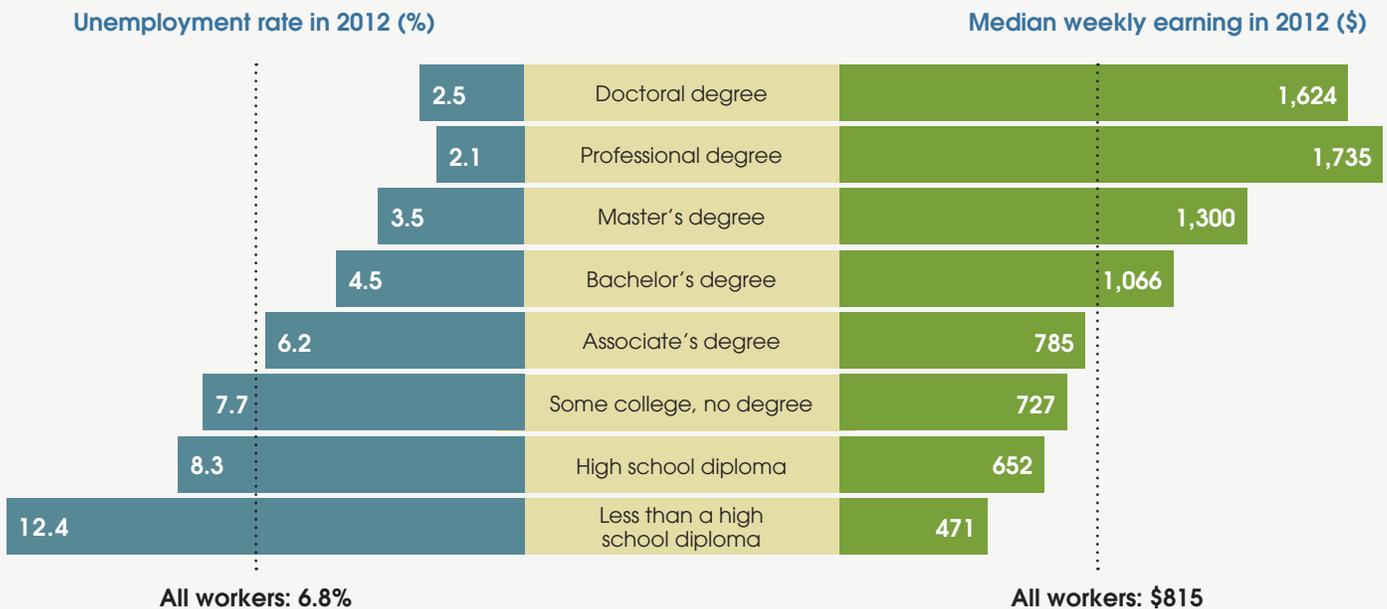
TRENDS IN EMPLOYMENT AND EDUCATION LEVELS

By 2018, about two-thirds of all employment will require some college education or better.
(national figures)



EDUCATION PAYS

(national figures)



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers

From *Current Population Survey* administered by the Bureau of the Census for the Bureau of Labor Statistics.

CASE STUDY

Helping students map out career pathways

When **Ivana Nunez** entered 9th grade at Queens Vocational and Technical High School, she had no idea she would have an affinity for plumbing and electrical installation. She attributes her technical aptitude to her first CTE teachers, who mentored her, challenged her with high expectations, and pushed her to overcome obstacles. As a result of their support, she was able to approach her work outside the classroom with the same rigor, acuity, and thoughtfulness. Today, Ivana is a CTE teacher apprentice in electrical installation, a traditionally male-dominated trade.

“Teachers make students want to evolve and become what they want to become.”

-IVANA

WHERE THE JOBS ARE

According to projections from the New York State Department of Labor, New York City is expected to add a total of 423,060 jobs between 2010 and 2020. The six sectors projected for the most growth are:

Health and social services

+138,390

Professional and business services

+94,710

Accommodation and food services

+31,970

Other services

+32,650

Educational services

+26,880

Retail trade

+26,260

Each of these fields includes multiple job titles projected to grow, for which CTE programs within the Department of Education portfolio can prepare students. For example, the health and social services sector includes jobs such as licensed practical nurse, registered nurse, and medical assistant. Other services describes a range of subsectors including maintenance and repair, and job titles such as automotive service technician as well as maintenance and repair worker. The retail trade sector includes positions such as sales representative and customer service representative.

Net job growth isn't the only criterion for high-opportunity economic sectors in the years to come. In 2011, 17 percent of the New York City workforce was age 55 or older. CTE programs aim to meet demand in stable or growing sectors with a high proportion of older workers, helping to ensure that important New York City businesses and industries will enjoy continued success as their current workers move into retirement.



High expectations for students are critical to meeting workforce demands. Real world experiences are helping students succeed.

WORK-BASED LEARNING: PREPARING STUDENTS FOR JOBS AND CAREERS

Work-based learning in New York City public schools is a multi-year sequence of instructional activities—incorporating real work experiences—that provide students with the skills to transition through high school to postsecondary education/training and careers. Through this school-industry collaboration, educators and industry professionals guide students through a progression of integrated classroom and work experiences. Students effectively learn how to:

- Identify and develop their natural strengths and abilities
- Map out a set of accessible career pathways in high demand occupations
- Develop a portfolio of their accomplishments, including industry credentials, resumes, and college application essays
- Build relationships with adults outside the classroom to serve as references and mentors

Become a Partner **TODAY**

- **Host** an internship placement
- **Mentor** students
- **Give** a career talk
- **Increase** recognition for your company
- **Make** an impact
- **Join** a school advisory board
- **Sponsor** student awards
- **Build** community relationships
- **Create** a trained workforce

JOIN US

Contact Us

email

industry@schools.nyc.gov

web

schools.nyc.gov/CTE

CASE STUDY

Giving students opportunities to interact with adult professionals outside the school setting

Kattiusca (Katty) Recio has traveled far: from a bilingual middle school in the Dominican Republic to the Business of Sports School in Manhattan. She is currently participating in a program with the global financial firm Morgan Stanley. **PENCIL**, a New York-based nonprofit that supports partnerships between businesses and public schools, brokered the connection. Although Katty “felt lost” when she moved to the United States, her English as a Second Language teacher helped her master the rigorous coursework. Through her school’s work-based learning experience with Morgan Stanley, Katty pushed herself to overcome her public speaking anxiety, has connected to a mentor at the company, and is on a path to a career.

“The experience made me improve. I feel more comfortable and sure of myself. I still get scared but I know I can do it now.”

-KATTY

CTE Students Changing Their World

Highlights from Around the City

- In December 2012, electrical students from Queens Vocational and Technical High School helped rebuild homes in Breezy Point after Hurricane Sandy.
- In February 2013, the Nickelodeon show “Alien Dawn” filmed on location at Academy for Careers in Television and Film, using students as interns and extras.
- Aviation High School (AHS) has trained generations of aviation technicians working across the United States at their annex at John F. Kennedy International Airport.
- Students at the High School of Fashion Industries have advised Macy’s on product development and roll out.
- In May 2012, students from the inaugural class at the Bronx Design and Construction Academy presented results of an experiment they conducted on a green roof at the World Renewable Energy Forum, the only high school students in the country to do so.
- IAM Advertising, an ad firm created and run by students at the High School for Innovation in Advertising and Media, landing its first paying client in September 2012.
- The Virtual Enterprises International Trade Show features thousands of students in “virtual businesses” buying and selling their products.

RESOURCES

New York City Department of Education
schools.nyc.gov

Career and Technical Education
schools.nyc.gov/CTE

Work-Based Learning Resource Center
wblbox@schools.nyc.gov

College and Career Readiness Benchmarks
tiny.cc/doeccr

**New York City Advisory Council for
Career and Technical Education**
icte.us/ctec

Partnership for New York City
pfnyc.org

NYC Jobs Blueprint
nycjobsblueprint.org