P-TECH Grades 9-14 School Model

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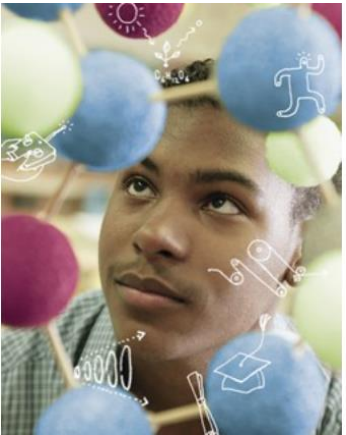
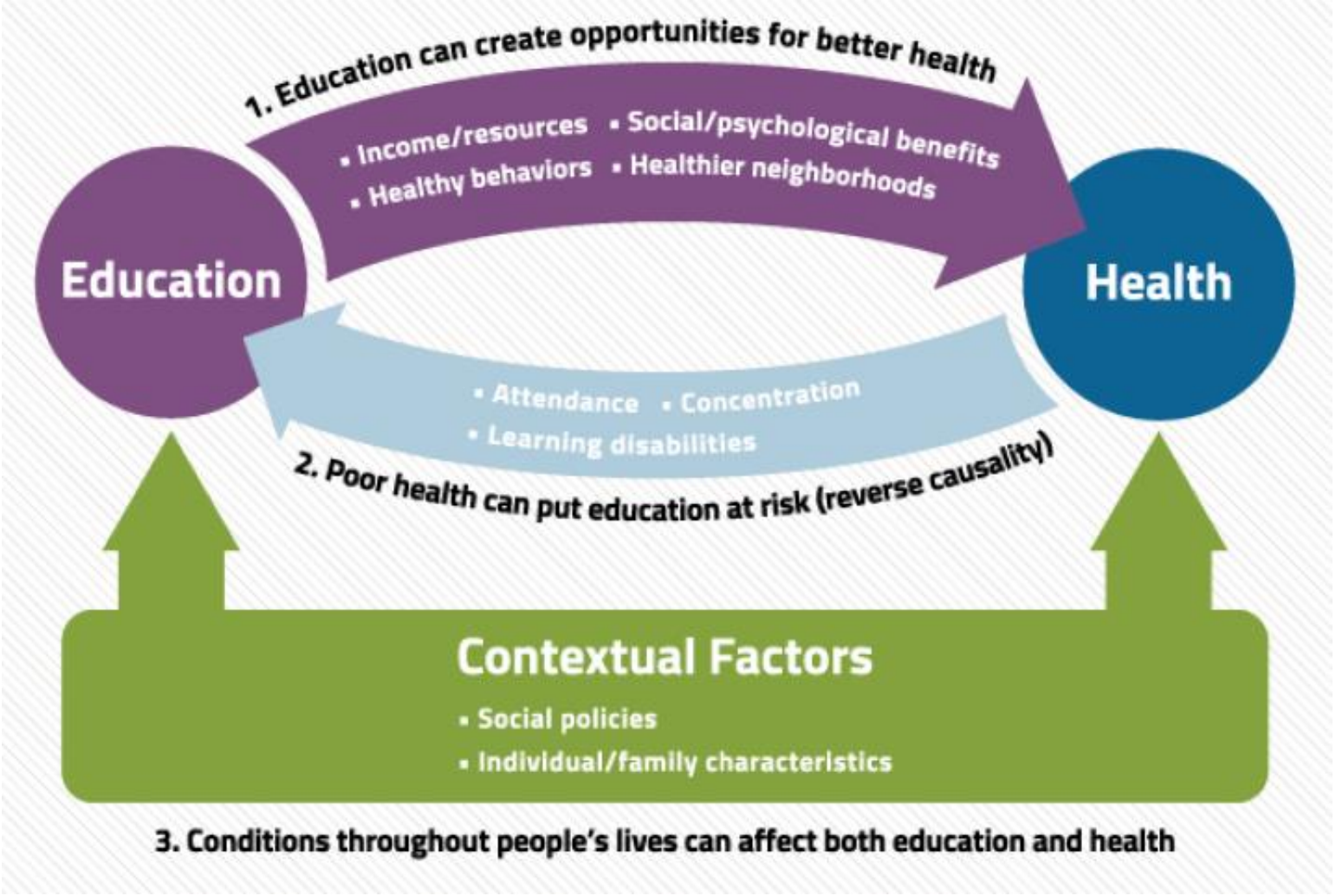
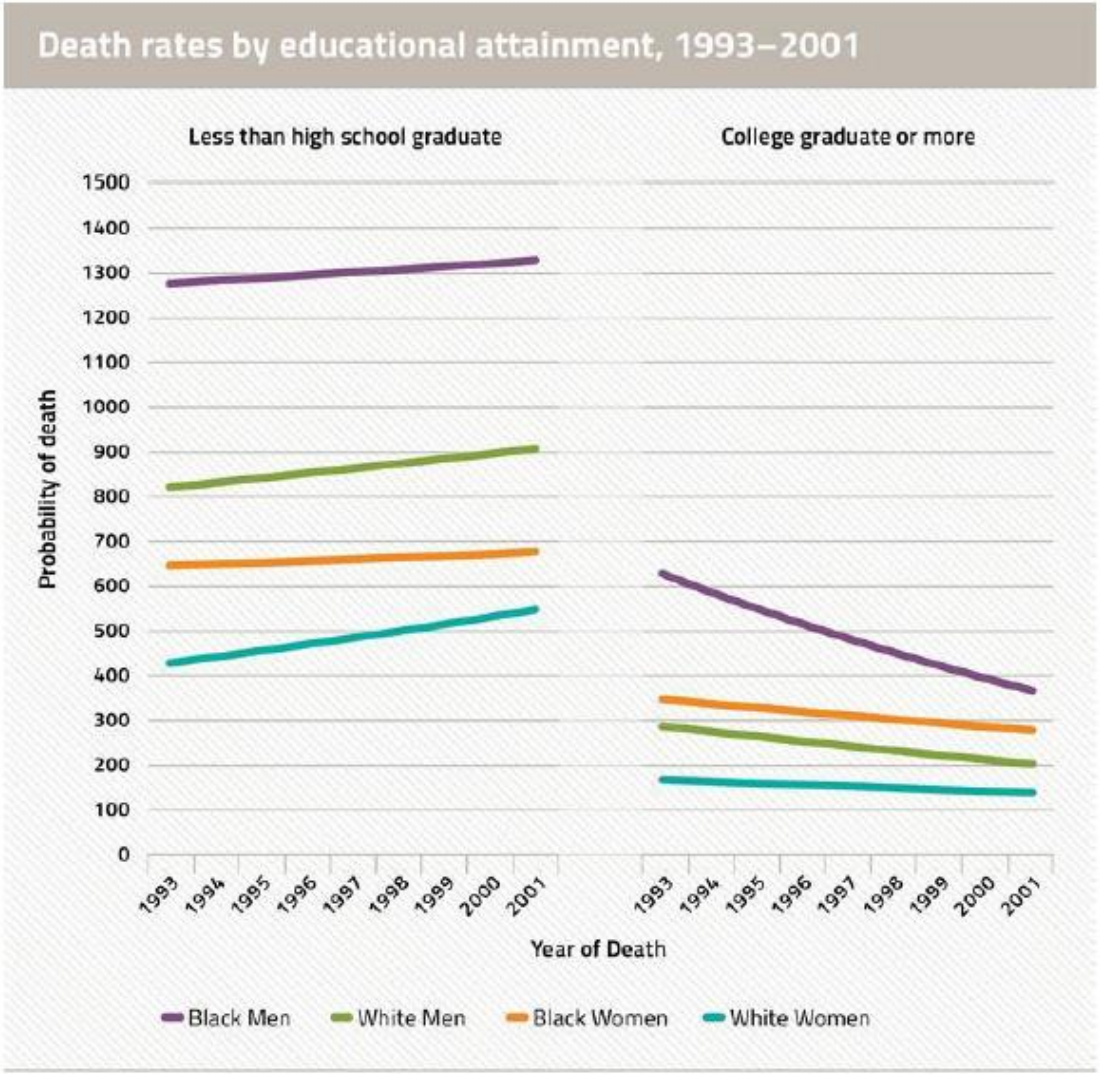


Why education matters to health



Source: Stephen H. Woolf, MD, MPH, Center for Society and Health, June 2014

The plight of high school dropouts



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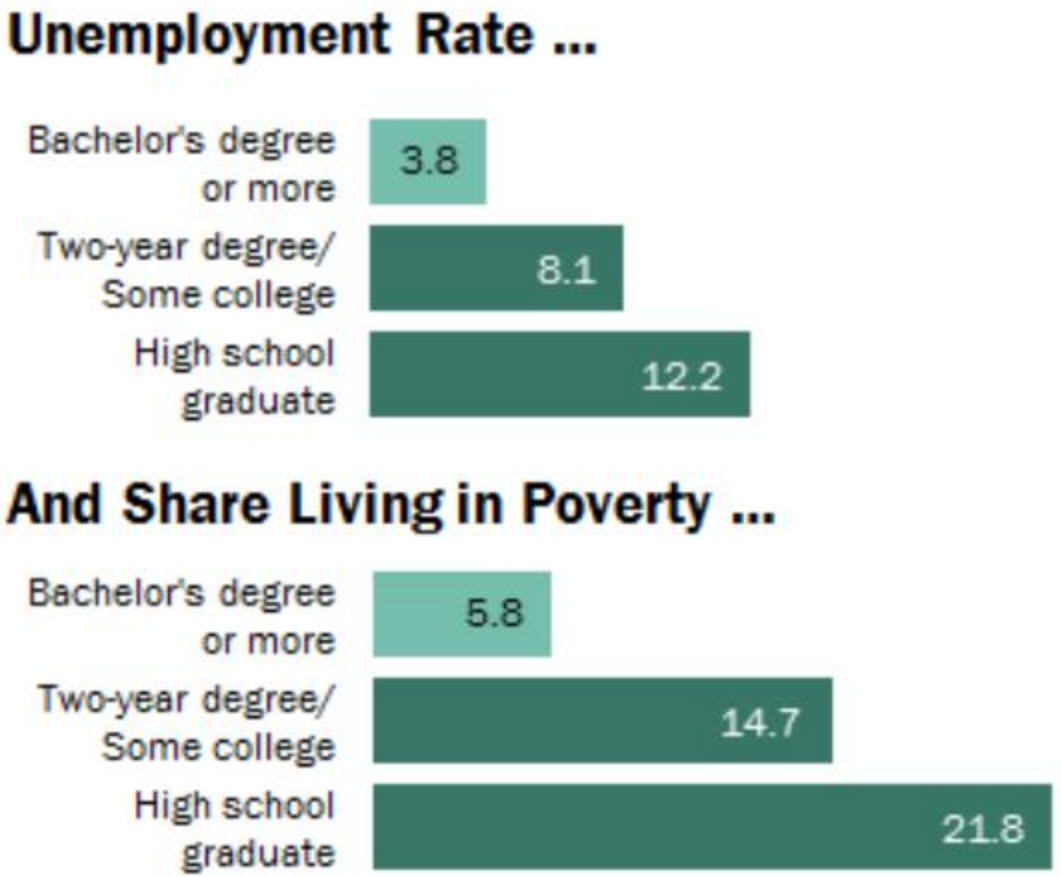
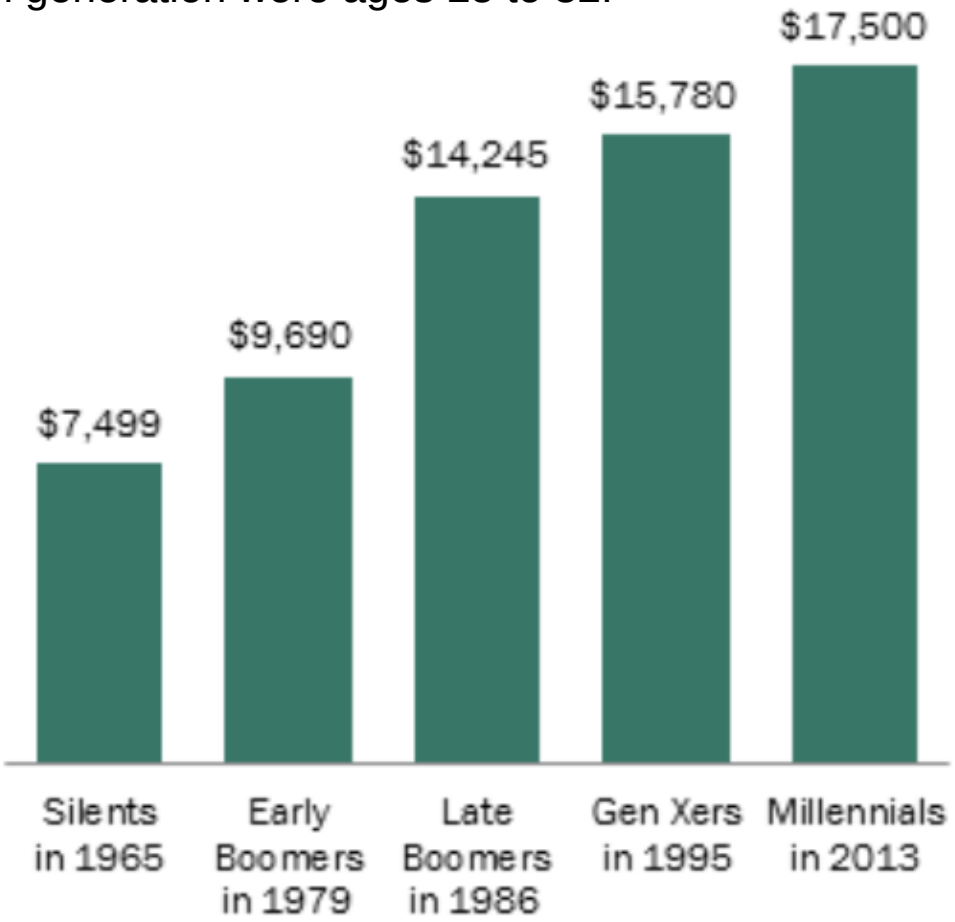
Disparity among Millenials ages 25-32



Source: Pew Research Center, “The Rising Cost of Not Going to College,” February 2014

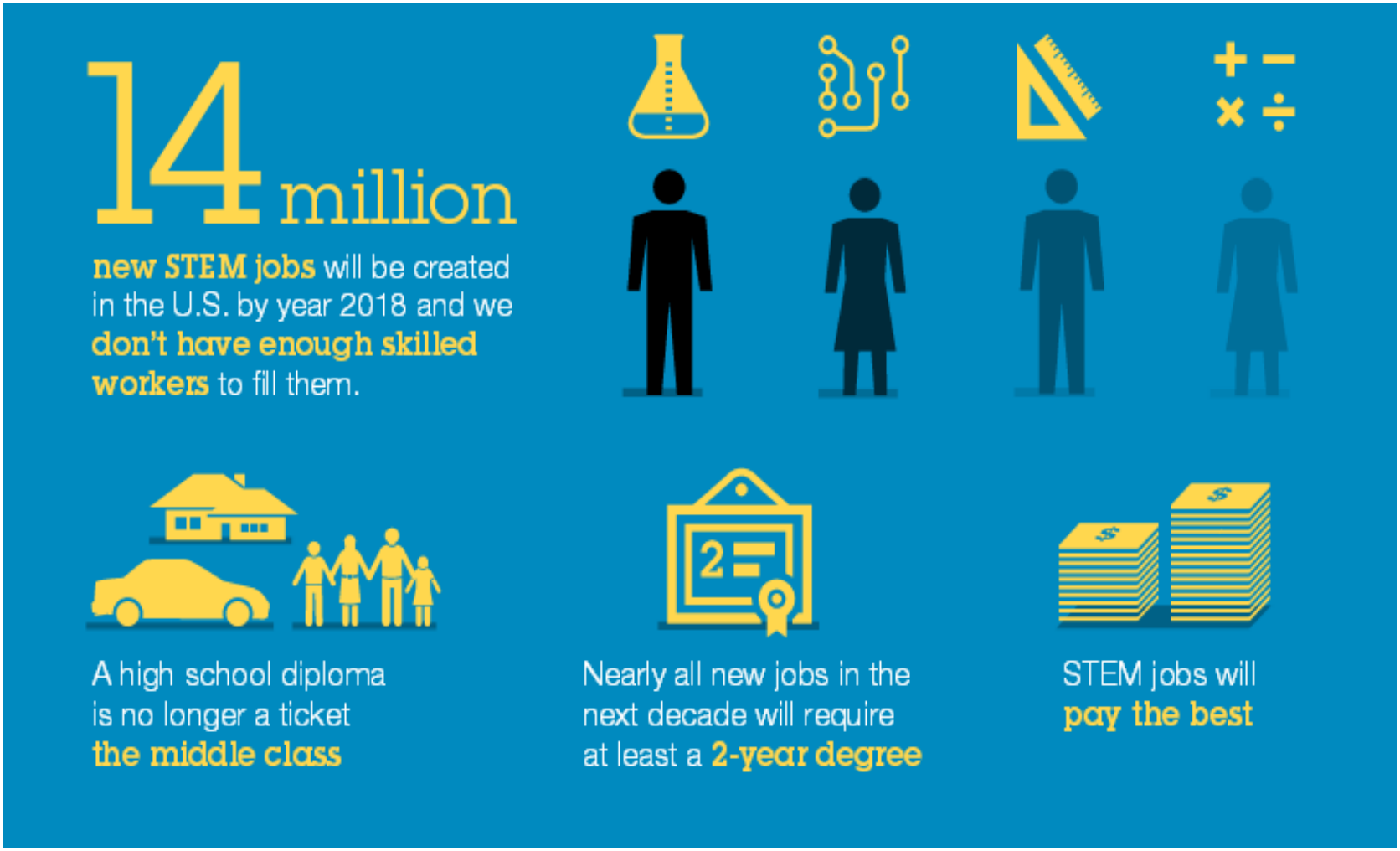
Widening earnings gap of young adults by educational attainment

The difference in median annual earnings of college and high school graduates when members of each generation were ages 25 to 32.



Source: Pew Research Center, “The Rising Cost of Not Going to College,” February 2014

The context for our work



A new model for education: P-TECH 9-14

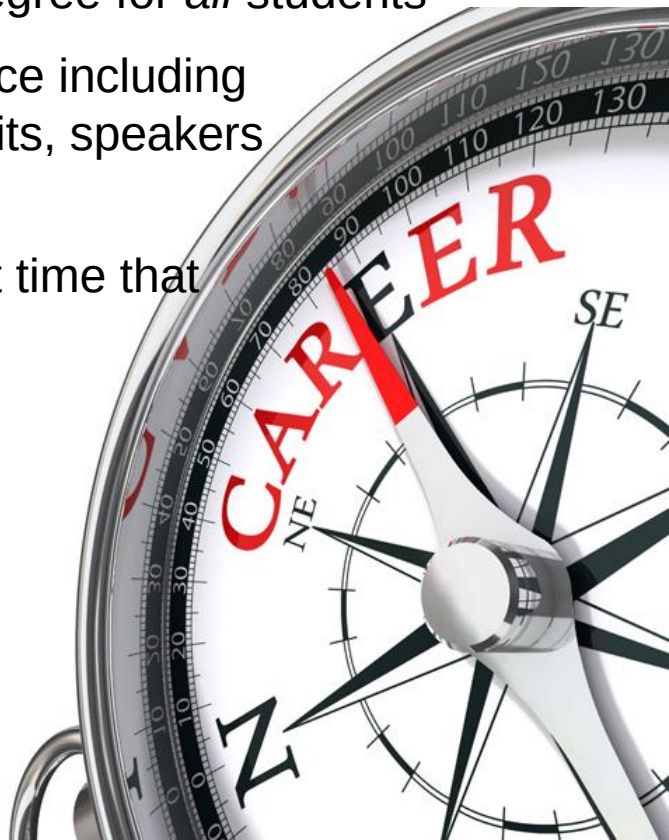
- **Focus:** A new grades 9-14 public school model focused on STEM fields

- **Mission:** Enable students to master the skills that they need either to graduate with a no-cost Associates in Applied Science degree that will enable them to secure an entry-level position in the Information Technology (IT) industry, or to continue and complete study in a four-year higher education institution.

P-TECH: The pathway from classroom to career to a stronger economy

Key Tenets

- **Partnership:** K-12, higher education, and industry
- **Public school model**: Open to all students, with no cost to students and their families
- **Early College:** Six-year scope and sequence *integrating* high school and college coursework and leading to an AAS degree for *all* students
- **Career-Readiness:** Workplace Learning sequence including skills mapping, coursework, mentors, worksite visits, speakers and internships
- **Personal Pathways:** Focus on mastery, not seat time that enables students to graduate in 4, 5, or 6 years



IBM partner schools

1. **Pathways in Technology Early College High School (P-TECH):**

   Partnership: New York City Department of Education, The City University of New York, New York City College of Technology, IBM

2. **Sarah E. Goode STEM Academy**

   Partnership: Chicago Public Schools, City Colleges of Chicago, Richard J. Daley College, IBM

3. **Excelsior Academy**

   Partnership: Newburgh Enlarged City School District (NY), SUNY Orange, IBM

4. **Norwalk Early College Academy**

   Partnership: Norwalk Public Schools (CT), Norwalk Community College, IBM

IBM Schools: P-TECH

P-TECH Pathways in Technology Early College High School

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- **Flagship:** First 9-14 model school
  - Opened September 2011
- **AAS Degrees:** Computer Information Systems or Electromechanical Engineering Technology
- **Students:** 335 students (101 grade eleven; 123 grade ten; 111 grade nine)
  - 76% boys; 60%Black and Hispanic males
  - More than 80% of students are on free or reduced lunch and 16% of students have Individualized Education Programs (IEPs)
  - Average attendance to date is 94%
  - All students are eligible with no grade requirements or tests for admission; students only have to express interest in attending
- **Leadership and Staff:** Founding Principal, Rashid Ferrod Davis; 2 assistant principals, 17 teachers, 4 central office staff; full-time liaisons from college and IBM

Real Results

	P-TECH	Sarah E. Goode STEM Academy
High School 	**74%** of all students have passed at least **three** Regents exams for graduation. **51%** have passed **four** and **23%** have passed **five** Regents exams *before entering year three* at P-TECH. Typically, students across NYC *may* have taken up to two required Regents exams before entering the third year.	In the 2012-2013 school year, between the Beginning of the Year (BOY) to the End of the Year (EOY), Goode's inaugural class gained an overall average of **1.5 years growth** on the 9th grade Explore exam (with an average of 1.8 years growth in English and 1.9 years growth in math). Goode was ranked **2nd out of 17 high schools** in the Southwest Area High School Network and **4th out of 106 high schools in the City of Chicago** with regard to average growth.
College Credit 	**162** students are enrolled in at least one college course, including EMT1111-Logic and Problem Solving, CST 1100-Introduction to Computer Systems, CST 1101-Problem Solving and Computer Programming, and College Calculus I and II.	**102** students are enrolled in college classes since January 2014. Forty-five (45%) of 10th grade students are taking college calculus or precalculus.

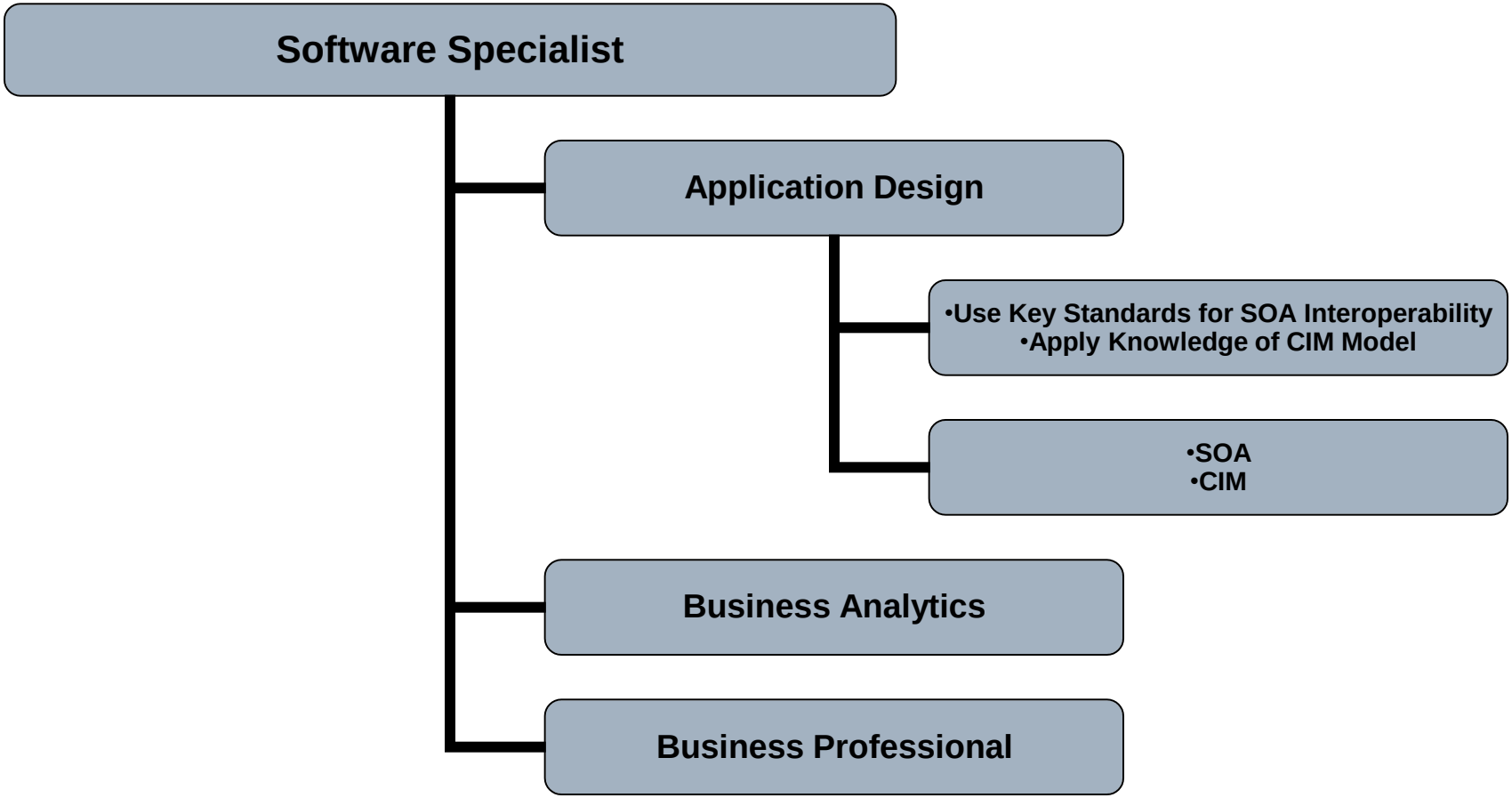
Key innovation: Industry partnership

IBM is involved in all aspects of the school, but has special responsibility over the **Workplace Learning umbrella**:

- **Skills mapping to ensure graduates are ready to enter the workforce and/or pursue higher education**
- Workplace Learning curriculum
- **Mentors for all students**
- Workplace experiences: Speakers, worksite visits, job shadowing
- **Skills-based, paid internships**
- First in line for jobs

IBM skills mapping

- Map hard/soft skills to IT jobs requiring an AAS degree
- Skills feed into curriculum development



Mentoring

men·tor [men-tawr, -ter]

noun

1. a wise and trusted counselor or teacher.
2. an influential senior sponsor or supporter.

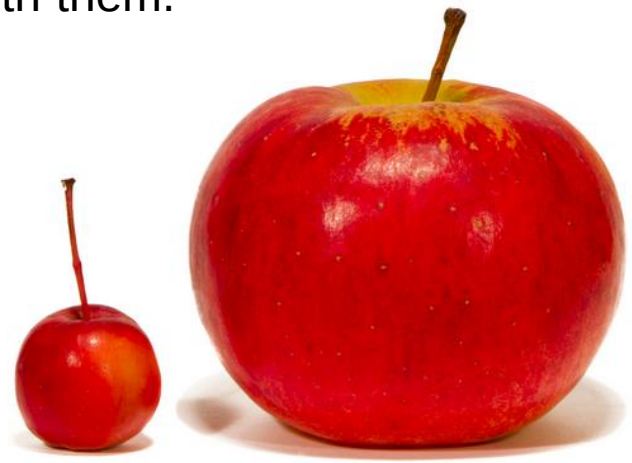
- All students are paired with an IBM mentor/industry professional who:
  - Inspires, encourages, role models
  - Provides meaningful feedback on coursework
  - Provides guidance, strategies and tools for navigating through the school program, including high school and college courses
  - Serves as a window into careers, emphasizing workplace learning skills

Mentoring Leads to Better Student Outcomes

- Educational achievement: Mentored youth have better attendance; a better chance of going on to higher education; and better attitudes toward school.

- Health and safety: Mentoring appears to help prevent substance abuse and reduce some negative youth behaviors.

- Social and emotional development: Taking part in mentoring promotes positive social attitudes and relationships. Mentored youth tend to trust their parents more and communicate better with them.



Source: Child Trends, “Mentoring: A Promising Strategy for Youth Development"

Internships

- Skills-based, paid internships for students beginning the Summer after Year 3

- First internships at P-TECH Brooklyn: Summer 2014
  - 61 eligible students based upon college class taking and participation in workplace learning class
  - 6-8 weeks, M-Th, with Friday seminars at school
  - Projects requiring students to demonstrate technical and workplace skills mastered at P-TECH

- **First and foremost in hiring:** Employers look for people who can demonstrate that they can do the job (*U.S. News & World Report*, 2012)

National recognition

"*This country should be doing everything in its power to give more kids the chance to go to schools like this one.*"
– President Barack Obama at P-TECH (October 25, 2013)

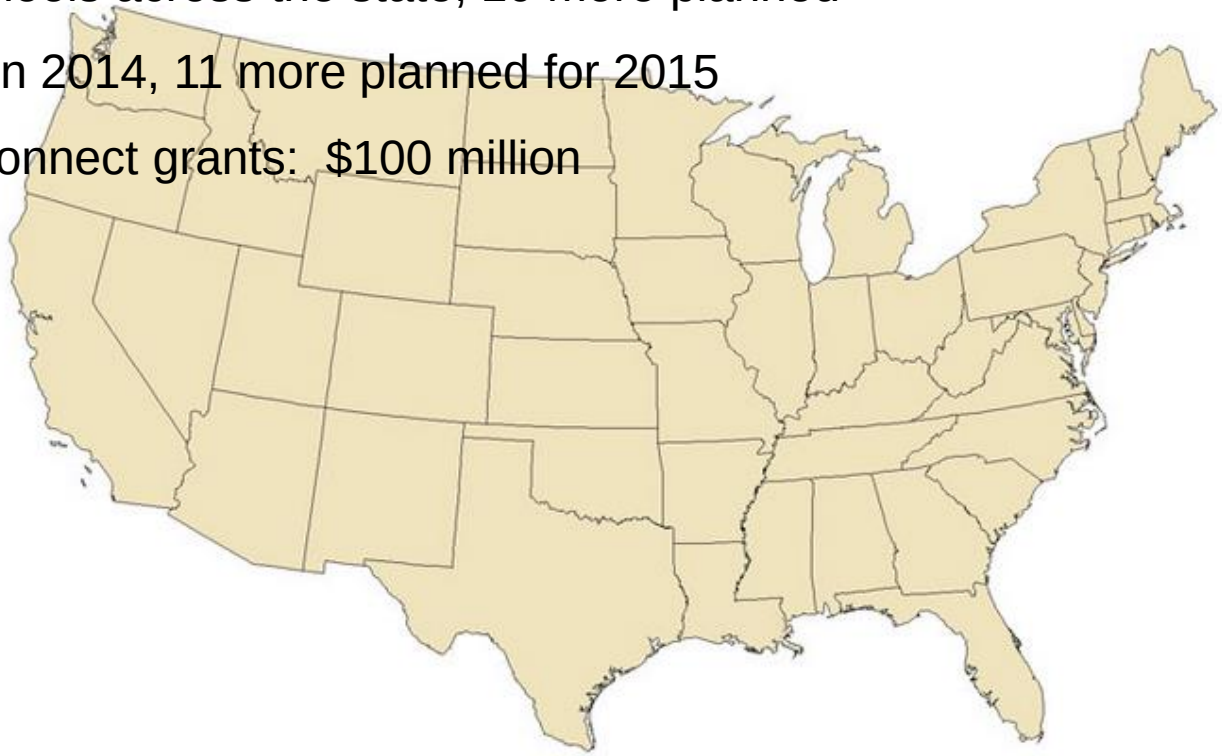
- **Major media:** *Time Magazine; Wall Street Journal; The New York Times, PBS NewsHour*

- **Perkins Reauthorization:** P-TECH as a model

From Results to Replication

27 schools and growing since September 2011

- Chicago: 5 schools
- New York City: 3 schools; 2 more in 2014
- New York State: 16 schools across the state; 10 more planned
- Connecticut: 1 school in 2014, 11 more planned for 2015
- Federal Youth CareerConnect grants: $100 million



Thank you