THE P-TECH 9-14 SCHOOL MODEL: OVERVIEW

Goals

The P-TECH 9-14 School Model directly addresses both education and workforce development issues. P-TECH has two goals:

1. Addresses the global “skills gap” to strengthen regional economies by building a workforce with the technical and professional skills required for New Collar jobs
2. Provides underserved youth with an education opportunity that enables them to earn a two-year college degree, along with the skills required to continue their educations or garner New Collar jobs

Systemic Reform Model

The P-TECH 9-14 School Model is a public education reform initiative. P-TECH extends high school from the traditional four years, or grades 9-12, to six years, or grades 9-14. When students graduate, they earn both their high school diploma and an associates, or two-year postsecondary, degree that is directly aligned to industry needs.

What makes P-TECH powerful is that at its foundation, P-TECH is a partnership that combines the expertise of public and private systems and institutions – school districts, community colleges and industry – with high-level government support.

The partners collectively provide students with the academic, technical and professional skills required to compete in the 21st Century economy. They enable student to complete high school and college coursework at the same time – at no cost to students or their families. They also enable students to participate in a range of workplace experiences that include mentoring, workplace learning coursework, worksite visits and paid internships. These opportunities together ensure that students complete their two-year postsecondary degree and are ready to either continue their educations or enter into competitive entry-level careers.
Addressing the Skills Gap

The “skills crisis” is a global phenomenon, plaguing countries across the world. To gauge current skills challenges and assess future needs, the IBM Institute for Business Value in cooperation with Oxford Economics surveyed more than 5,600 global c-level executives representing 18 industries and 48 countries, including 800 leaders of government institutions and 1,500 from higher education institutions. According to the report, “Employers are increasingly crippled by a workforce whose skills have not kept pace with changing requirements. If left unresolved, the global skills shortage will have profound effects on individuals and economies worldwide.”

The report found that:

- 60% of executives struggle to keep workforce skills current and relevant in the face of rapid technological advancement
- Only 55% of leaders believe the current education system in their country provides programs to ensure lifelong learning and skills development
- 55% of leaders believe inadequate investment from private industry is the most fundamental challenge in addressing skill development issues.

In the United States, the US economy will create 16 million New Collar jobs by 2024 — positions requiring postsecondary degrees, though not necessarily a four-year college degree. As the demand for higher skill jobs increase, nearly seven million jobs requiring only a high school diploma disappeared between 2008 and 2016.

However, the US education system is not producing the talent required for New Collar jobs. The on-time, national community college graduation rate is a dismal 13 percent. Graduation rates among low-income students are significantly lower. A 2015 University of Pennsylvania study found that the percentage of students from the poorest families earning college degrees barely moved in over 40 years — increasing only from 6 percent to 9 percent. Only 6 percent of college graduates from low-income, minority urban schools completed a STEM degree within six years, according to the National Student Clearinghouse.

Implementation Requirements

P-TECH is implemented with the highest-level government support, on a country-wide, statewide or regional level. It is NOT implemented on a school by school basis.
Before the P-TECH model can be implemented, there must be a high-level and written commitment to:

1. **Fund – through public sector funding – the model across all six years.**
   Government provides all the funding necessary for high school and college. Industry provides the resources for workplace experiences, including mentoring, site visits and paid internships.

2. **Launch with at least two schools, with at least 2 different industry partners.**
   If IBM has both the jobs and employee population in a given local area, IBM will commit to serving as a lead industry partner for a school.

From there, the partners must commit to ensuring that each P-TECH school follows the six tenets below. All tenets must be included to be considered a P-TECH model school.

1. **Partnership between school district, higher education partner and industry:** All making long-term commitments to the success of the school and its students
2. **Six-year program, featuring an integrated Scope and Sequence of high school and college courses, leading to an industry-recognized, postsecondary degree for all students.** Students can graduate within the six-years, but the six-year model ensures that students have the time and seamless supports necessary to earn their degree.
3. **Workplace learning strand, including mentoring, worksite visits, speakers, project days, skills-based and paid internships, and “first-in-line” for jobs**
4. **Open student enrollment with no grade or testing requirements for admission**
5. **Cost-free postsecondary degree**
6. **First-in-line for jobs with industry partners**

**Replication Timeline**

The first P-TECH school opened in Brooklyn, New York in September 2011, as a collaboration among IBM, the New York City Department of Education, The City University of New York and the New York City College of Technology (“City Tech”). There are currently 73 P-TECH model schools across six US states (New York, Illinois, Connecticut, Maryland, Colorado and Rhode Island), Australia, Morocco, and Taiwan. Further replication is under way in existing and new states and countries in 2018 in the US, Australia and Morocco and will reach 100 schools by September.
More than 430 large and small companies are partnering with schools across a wide range of sectors, including health IT, advanced manufacturing, and energy technology. Business partners include SAP, Global Foundries, Johns Hopkins University, and Kaiser Permanente.

IBM serves as the lead industry partner for eight schools, and provides thought leadership and technical assistance across the entire network. IBM-led schools include six US schools, one school in Australia, one school in Morocco, and one school (in the planning stage) in Taiwan.

Results

Drawing students from economically disadvantaged communities, P-TECH schools are seeing strong levels of achievement:

The model’s most mature schools -- P-TECH Brooklyn (launched 2011 in New York) and the Sarah E. Goode STEM Academy (launched in 2012 in Chicago) have graduated 92 students. More than half of these graduates completed the program early.

- P-TECH Brooklyn is the only school to have completed the full six years of the model. The first cohort, a majority of whom are low-income black or Hispanic students,
achieved a graduation rate of 53% -- that is over four times the U.S. on-time average for all community college students.

- Most graduates have gone on to pursue their bachelor's degrees, while 15 have taken positions at IBM in New Collar roles ranging from digital design to data analytics.

Other high level statistics:

- At Excelsior Academy in Newburgh, NY (launched 2014), more than one-third of the first class is on track to graduate two years early.
- At Norwalk Early College Academy in Norwalk, CT (launched 2014), 18% of the school's first cohort is on track to graduate two years early.
- At 16 P-TECH schools in New York state, 85% of students earned college credits and one-third completed two or more college courses before Year 4 of the model.

Resources

IBM developed the P-TECH 9-14 School Model Playbook (www.ptech.org) to serve as the central hub for public-private partnerships interested in learning about and implementing this groundbreaking model. The site provides action-oriented guidance and tools, including case studies, to enable public-private partnerships to implement the model effectively and with fidelity.

- In Their Own Words: IBM P-TECH Graduates (video)
- P-TECH: How high schoolers are redefining their future. TED Institute, Oct 14, 2015 (video)
- Educating Technologists. The Economist, July 16, 2015
- Why IBM's CEO Is Hiring Teens. CNN, July 15, 2015
- From High School Calculus Straight to a Job at IBM. FastCompany, June 18, 2015
- Why Six Years for High School is Catching On. PBS NewsHour, April 9, 2014