

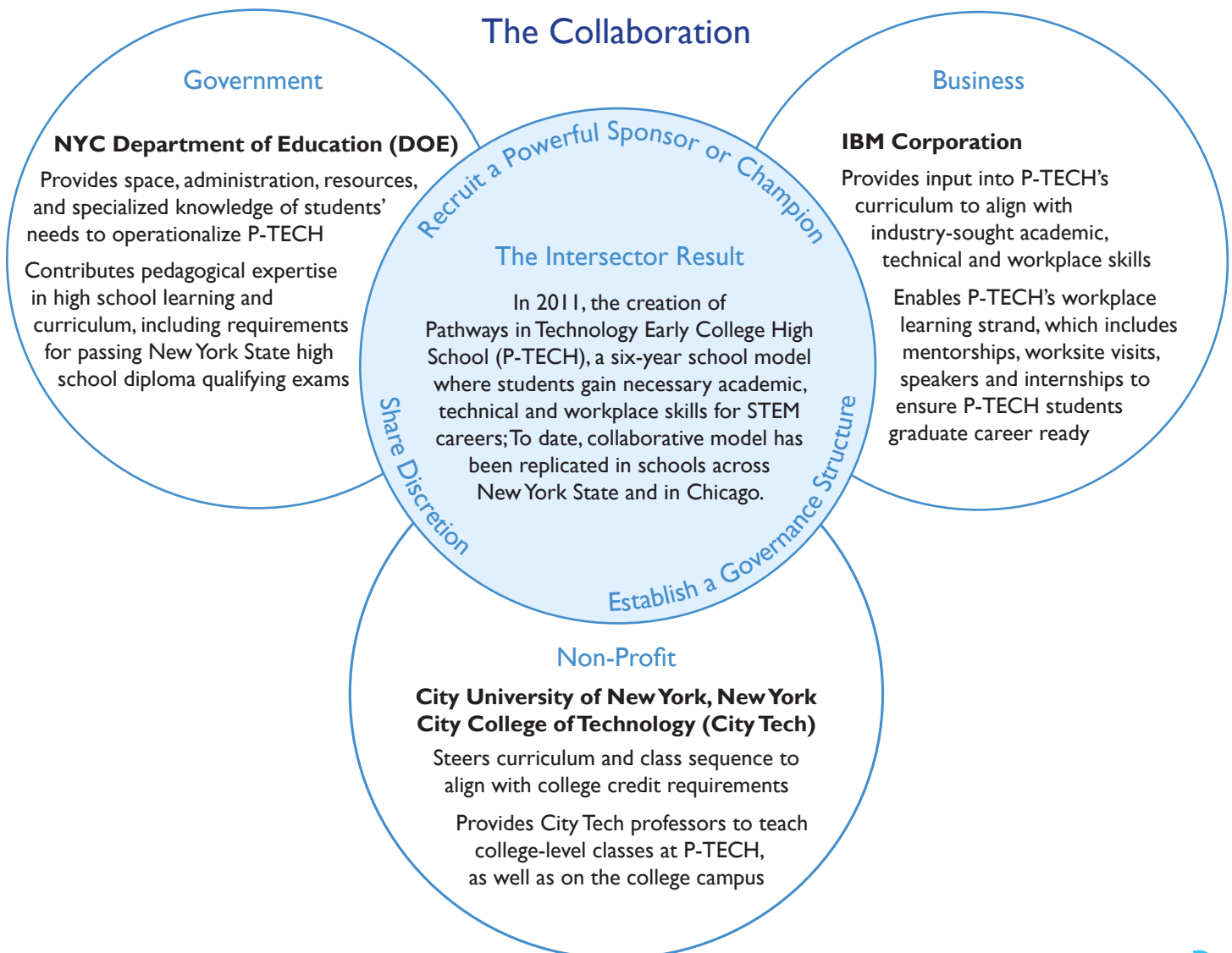


Preparing Students for STEM Jobs in New York City

Issue: Education | Location: New York, United States

The Story

In 2010, the unemployment rate in the United States was 9.6 percent, with almost 15 million people out of work. At the same time, however, companies like IBM and Siemens observed a lack of qualified candidates for STEM (science, technology, engineering and mathematics) positions. In 2011, for example, for every graduate in computer science, there were seven job openings. Without the relevant skills and credentials, those out of work are not qualified to fill STEM positions, and many companies lack the capacity to supply the necessary education. Stanley Litow, IBM's Vice President of Corporate Citizenship & Corporate Affairs, and President of the IBM International Foundation, recognized the skills mismatch in the labor market for STEM-driven companies. He worked across sectors to create the Pathways in Technology Early College High School (P-TECH), a grades 9-14 school program designed to equip students with the qualifications needed to compete for high-growth jobs in Information Technology. P-TECH opened in 2011 through a cross-sector collaboration with IBM, the New York City Department of Education, and The City University of New York (CUNY). P-TECH's goal is to graduate students with a no-cost Associates in Applied Science degree in in-demand fields, to put them on track to enter jobs in the STEM field at companies like IBM.



The Leadership

Stanley Litow is Vice President of Corporate Citizenship & Corporate Affairs, IBM Corporation, and President of the IBM International Foundation. Under Stan's leadership, IBM contributed close to \$200 million in 2013 to communities around the globe, focusing on how IBM's expertise and resources could be brought to bear on a range of critical issues including education. Prior to this role, Stan served as Deputy Chancellor for New York City's public schools from 1989 to 1994. As an education systems expert with experience and networks in the corporate, government, and non-profit sectors, he was the ideal leader to develop the concept and to lead the collaborative effort to create P-TECH.



Transferable Skills

Stan's experience in the education and business fields supplied him with the analytical and managerial skills to envision, incubate, and implement a cross-sector strategic plan for P-TECH. Having worked at large, multi-priority organizations, including IBM and the NYC Department of Education (DOE), as well as at Interface – a policy research non-profit he founded in 1974 – Stan also proved himself to be a skilled convener, able to identify and connect stakeholders on a shared issue.



Intellectual Thread

Stan is an expert in all areas of education, from planning macro-level policy and governance matters to understanding micro-level matters such as the impact of programs on individuals. Early in his career, while working with community-based organizations as the Director of Urban Corps, Stan gained first-hand understanding of education's potential to further the financial well-being of underprivileged groups. He went on to develop deep expertise in education as the Executive Director of Interface, researching and publishing an extensive body of policy briefs on education issues. Stan gained an intimate working knowledge of how schools and school systems operate, including their funding, labor, and other regulatory structures.



Balanced Motivations

Stan has dedicated his career to understanding and improving education because he sees its fundamental connection to virtually every public policy issue. By improving education, Stan seeks positively to impact the interrelated factors upon which individual and collective well-being depend, including economic stability and market growth. Stan has not only pursued the public good as a non-profit, government, and corporate professional, he also volunteers his time, leadership ability, and analytical skills as an active member of five non-profit boards. These organizations seek to foster innovation and reform in the practices both of government and of corporate institutions, with the overarching mission of maximizing the public good.



Integrated Network

Stan sought the expertise of his professional network during the creation of P-TECH, discussing the skills mismatch of the job market and the P-TECH concept with leaders of the New York City DOE, including then Chancellor Joel Klein, and leaders of CUNY, including former Chancellor Matt Goldstein. These leaders, which also include Cass Conrad, Executive Director of School Support & Development at CUNY and Bonne August, Provost of City Tech, have been influential to P-TECH's success. The expertise, funding, prestige, and other resources of Stan's network provided legitimacy for the project during its initial phases.

The Toolkit



Recruit a powerful sponsor or champion

As Stan mobilized his network and P-TECH began to take shape, the project generated significant interest across sectors, sparking the attention of then New York City Mayor Michael Bloomberg. Mayor Bloomberg announced the education initiative in September of 2010. He not only brought national attention to the initiative, but also made the creation of the school a priority. Another major step for enabling the project was identifying the right school leader – the person on the ground who would have the vision, experience and determination to develop and implement this groundbreaking school model. During the planning phase of the school, the partners identified Rashid Ferrod Davis to serve as Founding Principal. He would be the champion at the school level who would create the culture for the teachers, students, and parents that would be key to the school – and model’s – success.



Establish a governance structure

A Steering Committee made up of individuals from DOE, CUNY, City Tech and IBM act as the experts and decision-makers charged with moving P-TECH forward in accordance with the vision developed for the school and its students. The Steering Committee met twice a month during the beginning phases of the program, and it continues to meet monthly to guide P-TECH’s ongoing development. Steering Committee decisions and discussions are based on the work of planning committees, which develop recommendations and provide updates on specific areas of school functioning, such as course scope and sequence and workplace learning. Drawing on the research and recommendations provided by the planning committees, the Steering Committee engages in discussion and debate to arrive at consensus, with each partner contributing his or her expertise. Principal Davis, working with partners, operationalizes the vision and decisions of the Steering Committee.



Build a common fact base

During the initial phase of the Steering Committee’s work, the Harvard University Graduate School of Education released *Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century*. This report provided data on expected growth in available middle-skill jobs that would require a college degree, offering an analysis of the changes in education needed to ensure young people would be prepared to thrive in future labor markets. This was the data the Committee needed to assess the facts of the problem and to plan a solution. Working with Stan’s team, IBM’s Human Resources Department undertook an in-depth “skills mapping” to identify the entry-level jobs that required an Associates Degree in Applied Science, as well as the technical and workplace skills needed to fulfill the functions of those jobs. IBM then worked with high school and college faculty to map these skills to the curriculum to ensure that students would graduate with skills required for in-demand jobs.



Share a vision of success

The Steering Committee began with a shared vision of P-TECH as a grades 9-14 school from which students would graduate with an applied science degree and with workplace experience. This program would help address the future employment needs of young people, as well as the human capital needs of employers.



Demonstrate organizational competency and an ability to execute

As Vice President in charge of IBM Corporate Citizenship, Stan has a unique understanding of the role that business can play in addressing deeply entrenched societal issues. Because of this, he was able to pledge a menu of substantive contributions that IBM could make to the school model that would help ensure that students would graduate college and career ready. These included skills mapping, mentors, worksite visits, and internships, as well as commitment to make successful graduates “first in line” for jobs at IBM.



Share discretion

The Steering and planning Committees enable each sector to contribute its resources and expertise and to take responsibility for making aspects of the initiative a success. For example, IBM provides students with mentors and access to a substantial number of paid internships, while recruiting other companies to do the same, which ensure that students receive needed workplace experience and are competitive candidates for STEM positions. CUNY provides expertise on college requirements and its professors provide STEM content instruction to ensure that students are prepared to succeed in college classes.

The Intersector Result

The collaboration, under Stan's leadership, resulted in the establishment and implementation of P-TECH, now in its third year serving over 300 students. Over half of P-TECH's students have exceeded New York State high school graduation requirements in three years or less, and 125 of the high school's students were enrolled in at least one college class in 2013. On average, these students have already earned 12.6 college credits. About 75 percent of P-TECH's first class is expected to begin skills-based, paid internships in the summer of 2014. Other partnerships seeking likewise to prepare students for jobs in the STEM fields have adopted the P-TECH model. Stan counts this replication as a major step forward, one which he hopes will lead to broader education policy reform. Continuing successes include:

- > The 2013 opening of two additional P-TECH model schools in NYC, with 3 more expected to open by the end of 2015, in collaboration with corporate partners in diverse fields, including advertising, healthcare, and technology.
- > In 2013, New York Governor Andrew Cuomo announced 16 winners of a statewide competition to implement P-TECH model schools. And in 2014, announced that he would fund another 10 P-TECH schools.
- > In 2013, President Barack Obama, after a visit to P-TECH with IBM CEO Ginni Rometty, announced a \$100 million grant program to foster high school redesign along the lines of P-TECH.
- > In 2012, the P-TECH concept and collaborative model was replicated in five schools in Chicago, in collaboration with companies including Cisco, Microsoft, Verizon, and Motorola. IBM is serving as the lead industry partner for one school, the Sarah E. Goode STEM Academy.

“Each partner has common interests, as well as special and unique interests. The process of building consensus involves trust, a clear focus on common issues and concerns, and a workable and open process of consultation and problem solving.”
– Stan Litow, Vice President of Corporate Citizenship & Corporate Affairs, IBM Corporation, and President of the IBM International Foundation