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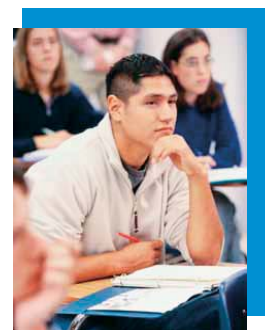
# Corporate Investment Supports Latinos in STEM Education

## IBM

To grow the future STEM workforce, IBM partnered with Queensborough Community College to create an early warning system to identify Latino students at risk of dropping out.

In 2008, IBM held a two-day summit to explore the opportunities and challenges inherent to the growing Latino student and workforce population. While acknowledging the increasing number of careers IBM and the general economy is creating in the Science, Technology, Engineering, and Math (STEM) fields, summit participants recognized that Latino students have the lowest level of enrollment in postsecondary STEM programs and that 1-in-3 Latino college students drop out during their first year in higher education. To foster a general and diverse STEM talent pool, IBM determined the need to support college completion among this fastest growing subset of the American population.

Historically, IBM has operated from the philosophy that to achieve enduring success, you have to manage for the long term; and you must evolve meaningful and sustainable solutions. Approaching the Latino college dropout challenge from this perspective, IBM has committed two of its strengths—technology and talent—to resolving the dropout problem. Because IBM believes that direct action and collaboration is the path to real change, it partnered with Queensborough Community College (QCC), a constituent campus of City University of New York (CUNY), to create a tool that will early identify Latino STEM students most at risk of dropping out in order to support them to college completion. In the spring semester of 2011, the Latino STEM Support Network (LSSN) Early Alert System was piloted, with a subsequent tiered rollout currently in process.



### Business Outcomes

- Developing Latino STEM talent pool

### Student Impact

- 8 percent higher C+ grades
- 7 percent lower F-to-C grades

### Latino STEM Support Network (LSSN) Early Alert System

- Systematic flagging of high drop out risk students
- Faculty/classroom input
- Academic intervention
- Community-based organization support for non-academic hurdles

## Creating a Business - Community College Partnership

Following the 2008 summit, IBM solicited requests for joint proposals from higher education and non-profit community-based organizations to partner on a \$250K technology and services grant that would offer support services to Latino students enrolled in STEM education. It received a strong proposal from QCC, located in Queens, New York, which is home to one of the most ethnically diverse communities in the nation, including a large Latino population.

The college had recently created “Freshman Academies” in several academic disciplines, including STEM, designed to provide early academic support in order to move more students to college completion. One of the challenges of the Freshman Academies is the large number of students that must be identified as at risk of failing or dropping out, and who must then be monitored regularly in order to target direct services and interventions as early as possible. The IBM technology and services grant targeted first-year Latino students in the STEM Academy and established the LSSN Early Alert System for those most at-risk. Although the solution focused on Latino students, all freshmen in the STEM Academy benefited from the early alert system.

## System Founded Using Business Expertise and Faculty “Buy-In”

As part of the grant, IBM deployed a technology team to work with QCC in developing the system.

The risk factors for dropping out were identified utilizing the QCC-CUNY advisory committee. Seven risk factors were identified; four of the factors are “fixed” and do not change throughout the academic year, and three are founded in classroom activity. IBM created an integrated database to identify individuals expressing the seven risk factors without creating additional reporting burdens for instructors or further system redundancies.

The IBM project manager and education subject matter expert leveraged the existing college information system, CUNYfirst, to identify the four high-level risk factors that are established as part of students’ college admission process: remedial placement; academic standing; external risk factors; and, academic support connection.

“IBM’s goal in partnering with QCC on the LSSN was to strengthen the career prospects of young people eager to participate in the growth of the economy and contribute to their communities, while ‘ priming the pump’ for the talent we’ll need to maintain our leadership positions in the industry. We think it’s a win-win.”

- Stanley S. Litow, Vice President, Corporate Citizenship & Corporate Affairs, IBM, and President, IBM International Foundation

However, in order to create a more time-sensitive report that facilitates early intervention, the remaining three risk factors would need to be flagged by classroom instructors—attendance issues, performance problems, and course failure risk. The IBM project manager accessed the existing classroom management system and created a simple process for instructor input of the three classroom-centric risk factors.

By enlisting instructors who participated in the pilot to input the needed

data, a dashboard report was auto-created weekly through the reporting tool and integrated database. The dashboard report was provided to the STEM Academy for early intervention, starting with the first week of school. This created an automatic report of information that previously might have taken up to seven weeks via the original intervention process and would have been too late to intervene on behalf of the at risk students. Mastering the data input process took less than twenty minutes even for those instructors with limited technical expertise, a process that gained unanimous support from the pilot group once it became evident that students were benefiting from the system.

## Promising Early Results of LSSN

The LSSN Early Alert System was piloted spring semester, 2011, in ten freshman STEM classes and the “College Life” class required of all first year students. The weekly report provided the STEM Academy Coordinator a list of the most high-risk students, including any flagged-classroom issues. The coordinator was able to provide appropriate academic interventions as well as information to their community-based organization partner, Queens Community House, which provides needed support services for non-academic hurdles such as child care, transportation, and other issues.

**The pilot generated an eight percent higher rate of C or better grades than students in other classes.** There was also a decreased number of students who registered but did not attend classes. The LSSN will expand to 60 professors and 100 classes at QCC fall semester, 2011, with the potential to expand it system-wide. Although designed to specifically target Latino STEM students, the LSSN Early Alert System is adaptable and will be scaled for wider application when IBM casts a larger net for other higher education partners in order to create a larger and more diverse talent pool.

For more information about IBM, visit [www.ibm.com](http://www.ibm.com).  
 For more information about QCC, visit [www.qcc.cuny.edu](http://www.qcc.cuny.edu).  
**IBM REVENUE:** \$99.9 billion  
**IBM SIZE:** 425,000+ employees

## About Corporate Voices

Corporate Voices is the leading national business membership organization shaping conversations and collaborations on public and corporate policy issues involving working families. A nonprofit, nonpartisan organization, we are a unique voice, and provide leading and best-practice employers a forum to improve the lives of working families, while strengthening our nation’s economy and enhancing the vitality of our communities.

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## Find Out More

Corporate Voices is committed to identifying and spotlighting businesses supporting postsecondary completion while making significant contributions to internal company goals. “Best practice” talent development models that increase access to career opportunities through education and training are being examined for characteristics that are transferable and replicable to other employers. This research is being conducted with the guidance of the Corporate Voices Learn and Earn Business Leadership Team consisting of business executives leading promising models and those interested in peer-to-peer learning. If you are interested in joining, contact Peggy Walton at [pwalton@corporatevoices.org](mailto:pwalton@corporatevoices.org). Team members include:

- Verizon Wireless
- UPS
- Convergys
- Expeditors
- Walmart
- AOL

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