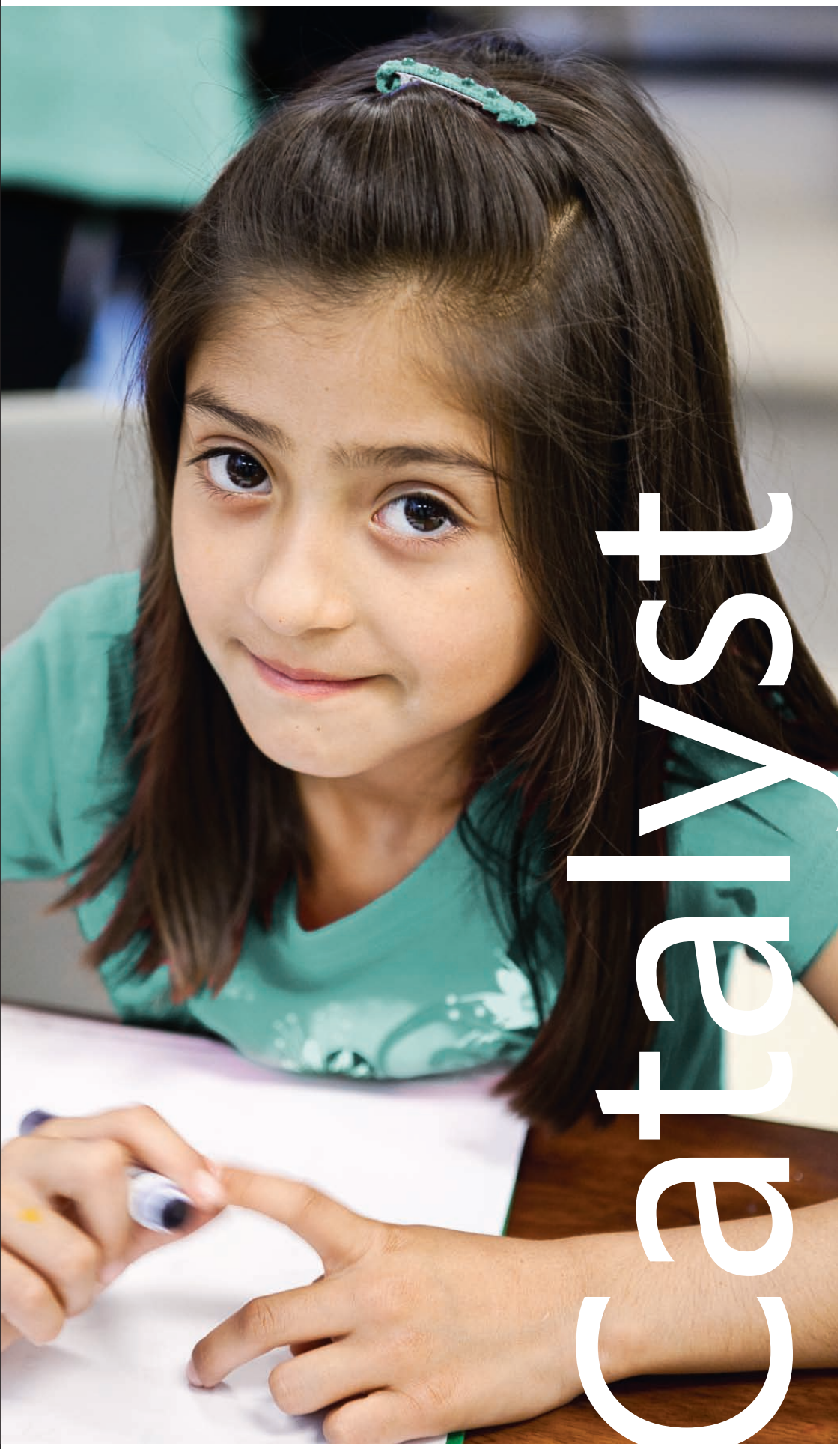
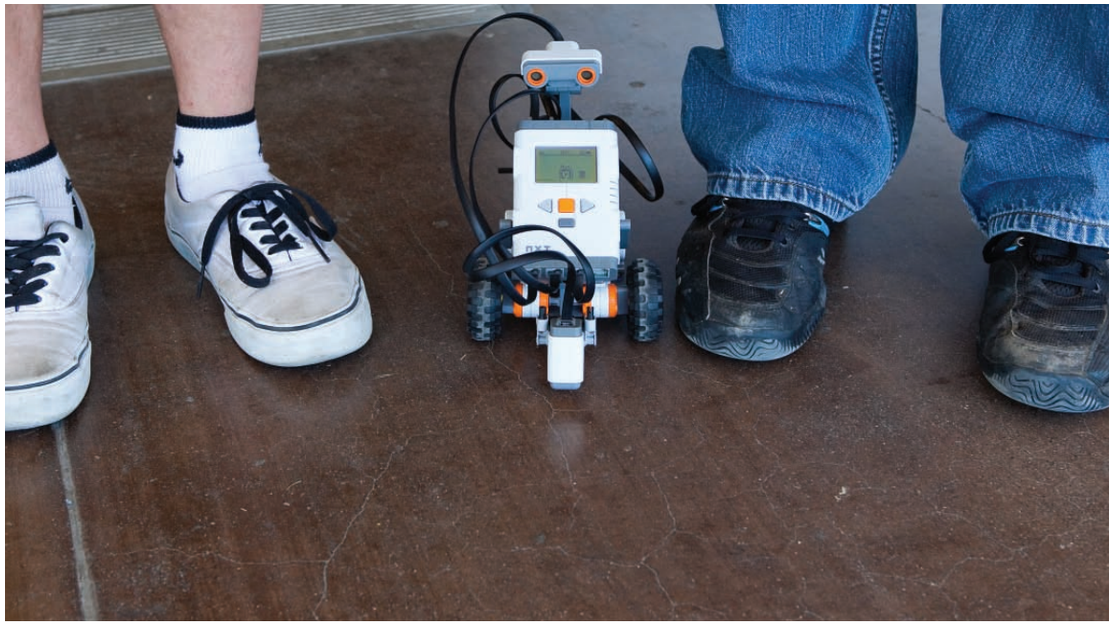


Catalyst

Education beyond the classroom

Catalyst Magazine

Front cover: Boys & Girls Clubs of the Peninsula
Back cover: Boys & Girls Clubs of San Francisco
All photos by Mary McHenry Photography.



A teacher's high-tech fellowship through IISME translates into robotics learning and fun at Irvington High School.

Welcome to Catalyst

As one of the Bay Area's top corporate philanthropists, Microsoft is frequently asked about our nonprofit partners and grantees. Which local organizations are truly extraordinary? Which are having the greatest impact? Which are serving as catalysts for change? In response to these questions, we launched Catalyst Magazine earlier this year. Each quarter, we highlight a different issue and explore the work of stellar Bay Area nonprofit organizations.

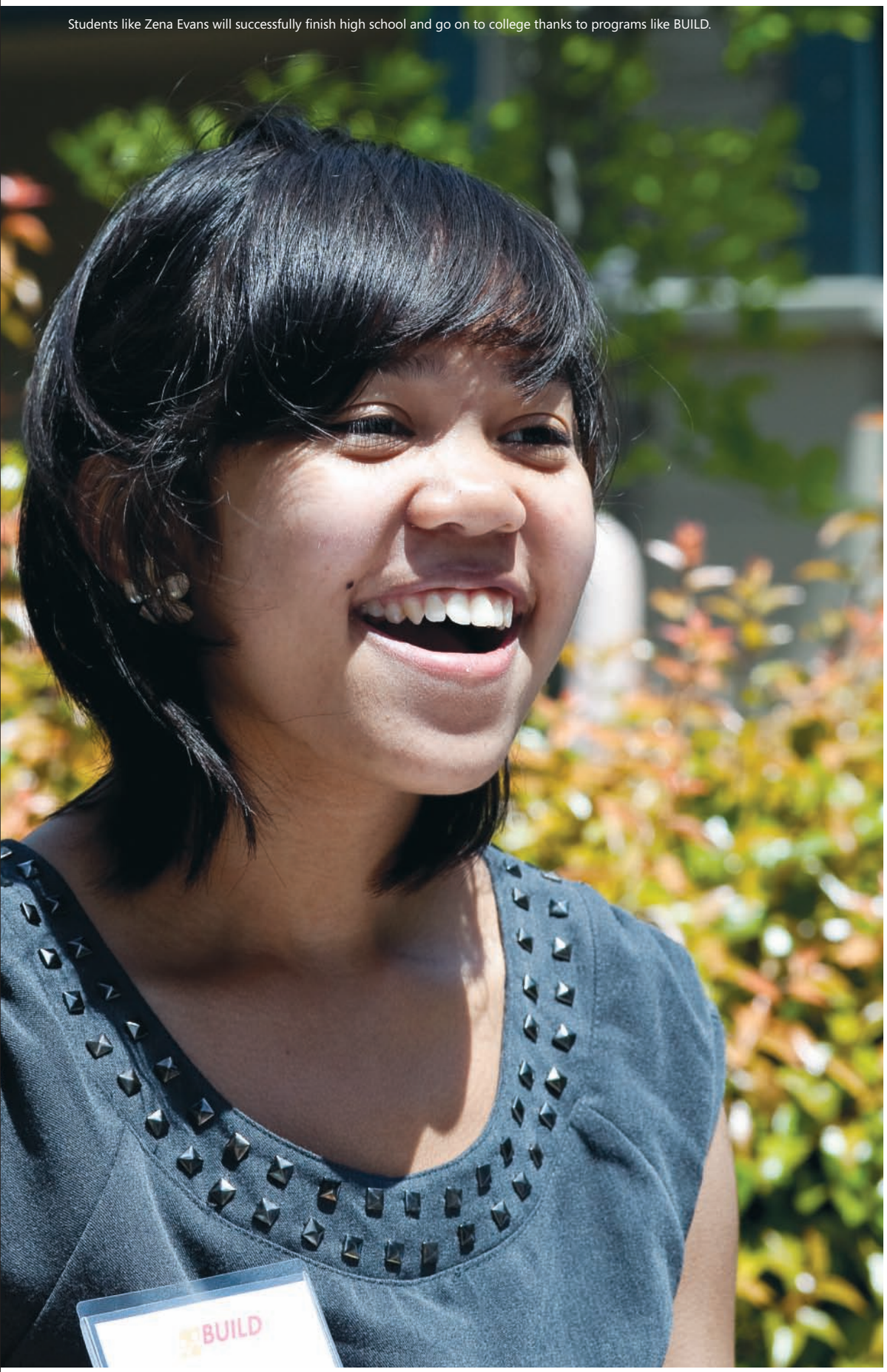
In this edition we look at education, with a focus on organizations that help students be successful, though not through traditional in-school approaches. Many of the programs improve learning in science, technology, engineering, and math. If successful, the students of today will become the professionals we will need to have a vibrant economy and a safe and healthy community.

Though diverse in their methods, all of these nonprofits help students achieve their full potential, ideally completing a college degree.

We applaud their important work and we are happy to feature it here.

Sid Espinosa
Director of Corporate Citizenship, Microsoft

Microsoft



Students like Zena Evans will successfully finish high school and go on to college thanks to programs like BUILD.

Big picture

The value of education—beyond the classroom

"You have to believe that there's a connection between education and the outcomes of society overall." These are the words of Rob Connolly, president of Boys & Girls Clubs of San Francisco, but they could have been spoken by the leaders of almost all the organizations you'll learn about in this issue of Catalyst.

About one in five California students drops out of school.

About one in five California students drops out of school. That's a simple statistic, but the consequences are complex and profound.

The California Dropout Research Project (CDRP) at UC Santa Barbara estimates that if even half of the 2006-07 school year dropouts from Berkeley, Oakland, San Francisco, and San Jose eventually finish high school, there will still be a cost of almost a billion dollars over their lifetimes in lost tax revenue, health care, crime, and other losses. Even more shocking, they predict that 1,400 murders and aggravated assaults would not take place in those communities, had those students graduated. For the state overall, the impact of the current dropout rate is staggering, with nearly $25 trillion in costs for just these 2006-07 dropouts and almost 15,000 additional murders and aggravated assaults.

The 20 percent figure of California dropouts includes around 12 percent of Caucasian students, but it's twice that for Latinos and three times higher for African American students. Bureau of Labor Statistics data for 2009 shows that unemployment rates are more than six times higher for people who don't have a high school diploma than for those with a professional degree and three times higher than for someone with a bachelor's degree. The average weekly earnings for those with no high school diploma are less than a third of those with a professional degree and less than half of those with a bachelor's degree.*

The nonprofits featured in this issue help young people realize their potential, academically and in their lives overall, with dropout prevention as an explicit or implicit aspect of their work. Most supplement or complement school-based education to meet needs that can't be addressed in current public school settings.

The end goals of these organizations range from ensuring that students finish high school to college graduation and beyond. Common elements across the programs include the presence of positive adult role models, safe environments, and a culture where academic success is rewarded.

While the statistics related to school dropout rates are grim, the problems can be addressed in part by strengthening the public education system through increased funding, policy changes, and effective intervention practices. And the negative effects on the economy and society can be reversed if students have the support they need to complete high school and go on to further education in whatever field they choose.

If everyone is able to earn wages that keep them out of the cycle of poverty, allow them to contribute to the Bay Area's innovation economy, and drive healthy communities, then these nonprofit organizations will no longer need to exist.

*www.bls.gov/emp/ep_chart_001.htm

Xavier Taylor, a BUILD Oakland student, presented his business plan in a competition for seed money to start up his team's new venture.

Profit redefined

Life-changing entrepreneurship training motivates students to go to college

A Bay Area-based organization is using entrepreneurship training to propel at-risk students to graduate from high school and attend college. They come to the program more interested in business than academics, but by showing them the connection between hard work and business success, they see the benefit of college. The students who enter the program are from low-income communities and are at high risk of dropping out of school, but to date, 100 percent of program graduates have gone on to attend college.

"Before BUILD, I would just wait for things to happen to me," says Aja, a 2010 BUILD graduate from Oakland. "I was depressed, lonely, and I wasn't confident. However, I knew I was something more than stereotypes I had heard of women from my community who became drug addicts and unwed mothers. I knew that I could achieve my dreams, but I had no idea how. BUILD set me on the path by helping me to start my own business. I am the CEO of Charm Style, a company that makes charms for bracelets and cell phones. My long-term goal is to find a career that allows me to empower young women. Thanks to the many nurturing role models with high expectations I've had at BUILD, I know I can become a positive role model for other young women in my community. With BUILD, I started a business. Now, I will be the first in my family to go to college." Aja was selected as a Gates Millennium Scholar and is in her freshman year at Clark University in Atlanta.

BUILD partners with high schools in the Bay Area and in Washington, D.C., to begin a four-year process that starts with a ninth-grade elective class during which students create a business plan. From their sophomore year through graduation, they participate in an after-school program at a BUILD "incubator site" in the local community. Students pitch their businesses at annual competitions to get seed capital, run their businesses, get academic help, and receive encouragement to go to college.

"Thanks to the many nurturing role models with high expectations I've had at BUILD, I know I can become a positive role model for other young women in my community. With BUILD, I started a business. Now, I will be the first in my family to go to college."

—Aja, 2010 BUILD Graduate

Microsoft has supported BUILD with grants totaling $22,500 over the past two years. About 500 Bay Area students are served every year, and BUILD's program is the largest youth business incubator in the nation.

Axis of unconditional love and absolute authority

"The key to our success is the axis of unconditional love and absolute authority," says Suzanne McKechnie Klahr, CEO and founder of BUILD. "What that means to me is that we treat our students with a tremendous amount of nurturing, but we have extremely high expectations and the boundaries are very clear, with the belief that students rise to the expectations that you set for them. If you coddle young people, you cripple them because the world is challenging."

One of the insights seen through the program is the importance of close relationships with adults, from which their mentoring program stems. Additionally, "business and making money are really exciting to teenagers, and especially low-income teenagers, and will allow them to take risks and do things they would never have done academically," says McKechnie Klahr. The students want their businesses to succeed, so they are motivated to learn the skills they need for that, and they also must maintain a minimum GPA to continue with BUILD.

McKechnie Klahr is proud that the program creates an alternative culture of peers that celebrate each other's success and are excited about going to college. BUILD students often become informal college advisors to students at their schools and help them with their process of applying to schools and for financial aid.

There are many ways to partner with BUILD, either with financial or intellectual resources. Funding is welcome, and McKechnie Klahr says that "whether you have an hour in a year or an hour every week to volunteer, we can find you a great opportunity." To those working on public policy, they request anything that can be done to spread their work and bring experiential education to the forefront. Go to *build.org* for details.

Zoe Glover was a member of one of 24 teams in the BUILD Business Plan competition.

If it is to be, it's up to me

STORY 03

An award-winning national program launches in the Bay Area

In July 2010, a group of Hispanic high school students from the four lowest-performing high schools in East San Jose gathered to begin a process that will take almost all of them to college. They came together at Santa Clara University for the launch of the first Silicon Valley Hispanic Youth Institute (HYI) and emerged with a vision of hope.

The number of residents of Hispanic origin in the Bay Area is high, but that is not reflected in higher education enrollments or in high-tech professions. HYI works with Hispanic high school students to educate and inspire them to get a college education; pursue a professional career in business, science, technology, engineering, or math; and give back to their communities as leaders. The students who participate in the program are typically low-income, with little or no family history of college attendance or professional work.

The Institute is offered in eight locations nationwide, and Microsoft has provided a $100,000 sponsorship to bring the program to Bay Area youth. A 2009 study by a UC Irvine researcher found that the Institute helps prevent students from dropping out and helps place them squarely on a college-going trajectory. After their HYI experience, 90 percent of students attend college.

"For many of these kids, this is the first time that they really recognize that you don't have to be born into success, that you can earn it. They hear people who look like them who have actually accomplished it," says George Cushman, vice president of programs at Hispanic College Fund, of which HYI is a part.

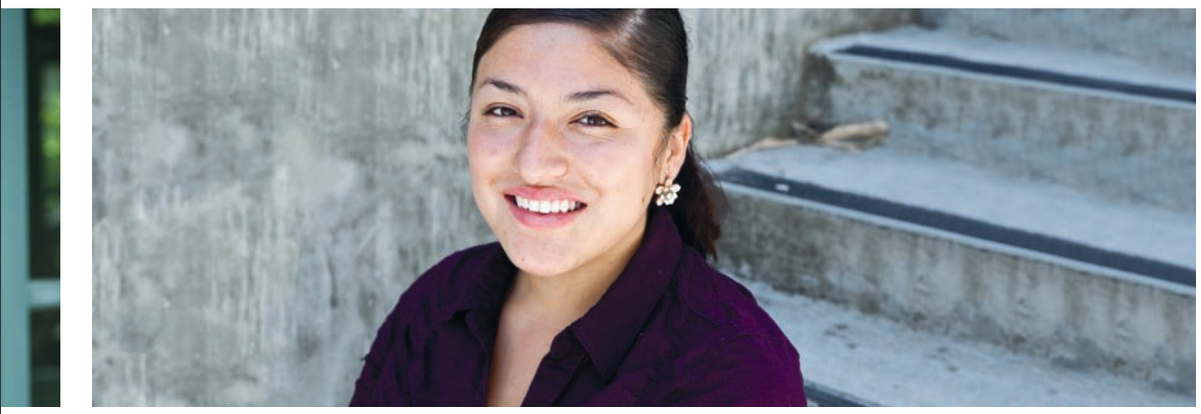
The motto of HYI is "If it is to be, it's up to me," yet students learn that there is help available through people and resources they never knew existed. The number of Institute volunteers who are professionals is usually much higher than the number of students participating in the Institute itself, and Cushman has heard students say, "Thank you for believing in me" more times than he can count.

The Institute starts with an intensive four-day, three-night program that allows students to develop a network of peers and mentors, learn about resources and tools for college, and develop a long-term career vision. At the program, Microsoft employee volunteers share their experiences and information about careers in software engineering. Throughout the following year, students participate in online and school-based activities led by the students. They also maintain regular contact with their HYI mentors and peers.

HYI is a program of the Hispanic College Fund, which has awarded $15 million in scholarships to more than 5,000 Hispanic students. Their programs include HYI and others that support students from high school through college and into their careers. These activities support their vision of developing the next generation of Hispanic professionals. The Silicon Valley-based Institute is a collaboration between the Hispanic College Fund, National Hispanic University, and Santa Clara University.

Individual or corporate donations are welcomed, and Institute volunteers find the experience to be very rewarding. Visit *hispanicyouth.org* for information on the Institute, and *hispanicfund.org* to learn about the Hispanic College Fund.

Katherine Vilchez, now a junior at UC San Diego, was inspired by her HYI experience and now mentors younger students.



Turning dreams into reality

STORY 04

Savings programs boost working poor's assets for education

It's estimated that a single parent with two children living in the Bay Area needs $65,000 per year to meet basic needs, yet someone working for 40 hours a week at minimum wage typically earns just $16,640 annually. As a result, one in four Bay Area families has to make choices between paying rent, buying food, and staying healthy. For these members of our community, paying for a college education seems like an impossible dream, though one that could lead to a long-term escape from poverty.

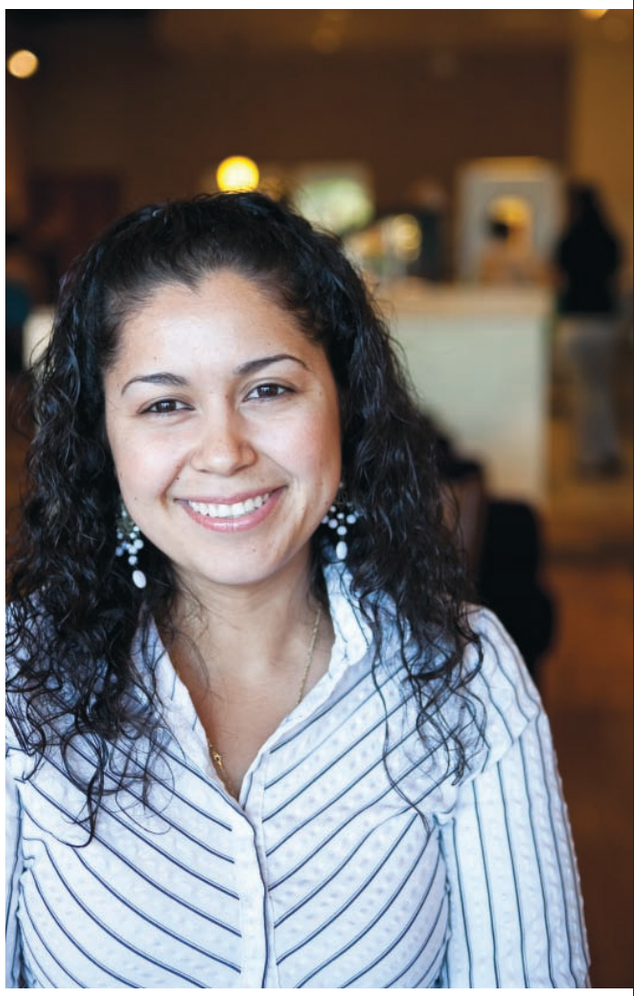
Opportunity Fund helps the working poor of the Bay Area improve their economic well-being through financial education, microfinance loans, matched savings accounts, and affordable housing financing. Thousands of low-income residents have benefited from the organization's Individual Development Account (IDA) savings program, which provides matching funds when clients make regular deposits toward an important goal. A donation from Microsoft is helping Opportunity Fund reach their goal of enrolling more than 300 new families in the IDA program this year.

Unlike in other parts of the country, where home ownership is the goal for most participating savers, 85 percent of Bay Area participants save for their education or that of their children. The potential for this to change a family's future is enormous, but the process for saving is simple.

One in four Bay Area families has to make choices between paying rent, buying food, and staying healthy.

How it works: Participants can receive an additional $4,000 in matching funds when they save $2,000 over two to three years. Additionally, the savers must first complete a financial education course. Opportunity Fund has found that while the funding is important, receiving financial education and developing the habit of saving are even more critical to long-term success as participants build assets for themselves and future generations. "Our clients tell us over and over again: 'That was the part that really changed my life,'" says CEO Eric Weaver.

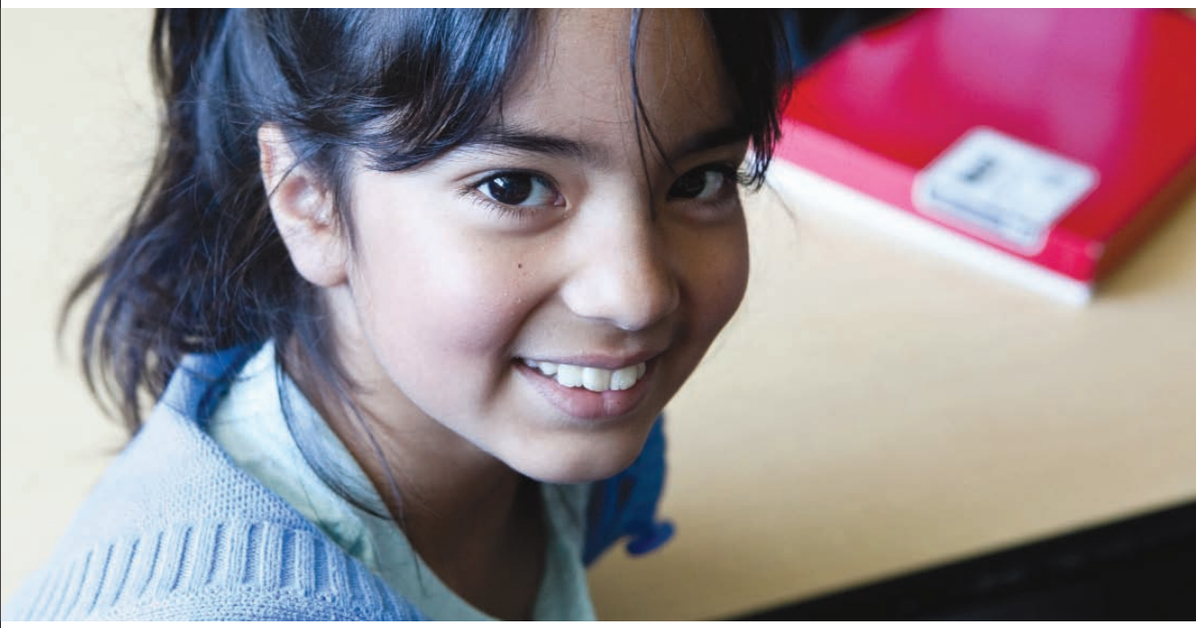
Growing up in Fresno and East Palo Alto, Miriam Torres attended 12 different schools and at one point her family lived in their car. But through it all, Miriam never lost her conviction to pursue a higher education.



Opportunity Fund helped Miriam Torres get her education and now she helps others.

When she first learned of Opportunity Fund's matched savings program, she knew it would help her realize her dream of graduating from college. She held down two part-time jobs while in school, and after two years Miriam had saved $2,000 and received a $4,000 match on her hard-earned savings. In June 2009, her dream came true as she graduated from the University of California, Santa Cruz. She now works at California State University, East Bay, in a program that encourages at-risk youth to pursue higher education.

If you'd like to contribute or volunteer, there are many opportunities, including the chance to sponsor specific individuals as they save toward their goals. Visit *opportunityfund.org* for more details.



Homework time and enrichment classes are a big emphasis at today's Boys & Girls Clubs.

Beyond a sanctuary

Historic organizations use 21st-century tools in a new formula for success

For more than 150 years, Boys & Girls Clubs have been places where youth can go to find a safe and fun environment away from the negative influences and danger on the streets in their communities. But in the Bay Area, the Boys & Girls Clubs of the Peninsula (BGCP), Boys & Girls Clubs of San Francisco (BGCSF), and Boys & Girls Clubs of Silicon Valley (BGCSV) have developed even beyond that into places where the members' education is their first priority and technology plays a big role in their academic and personal development.

At this new generation of Boys & Girls Clubs, kids use digital multimedia to broadcast play-by-play action for baseball games at the Willie Mays Boys & Girls Club at Hunters Point in San Francisco. In Redwood City, they develop works of video, dance, music, and art that comment on critical issues and inspire social change in their communities through a partnership with The Black Eyed Peas. And they learn to use the technology that they need to succeed in school and in their future work.

These aren't the kinds of opportunities that you might expect a low-income student to have, particularly given the underfunding of California's schools, but the Boys & Girls Clubs and their partners like Microsoft make it happen. Microsoft began giving the Boys & Girls Clubs members access to technology more than a decade ago, when it launched Club Tech centers that have now expanded to more than 2,000 sites nationwide.

Taking education beyond the school

Education is now the top priority in these Boys & Girls Clubs. Members' interactions with staff, their incentives to participate in sports and other activities, and the overall culture all underscore that education is their key to success. Both BGCSF and BGCP have instituted individualized guidance counseling to make sure that their teen members are keeping up in school and making good choices to meet their long-term goals.

Peter Fortenbaugh, executive director of BGCP, recounts the story of a club member who was invited to the Sundance Film Festival to show a digital movie she created through the skills she developed in Club Tech. Despite this great success, Fortenbaugh later learned that she was dropping out of high school. "It became clear to me that we were focusing on our programs and we were missing the big picture, which is that two-thirds of the kids in our neighborhoods do not graduate from high school." BGCP has since dramatically increased their emphasis on academics as well as their partnerships with schools to further their goal for members: 'high school graduation with a plan.'

"We will always be an important support to schools. We are never going to replace what they do. We don't want to," says Rob Connolly, president of BGCSF. "Our job is to surround our youth with the people, the resources, the environment, and the inspiration to succeed in school." Both organizations work hard to develop close relationships with their members' schools, to the point that BGCP has been given direct online access to their members' grades by local high schools.

Technology for academics and self-expression

Many club members don't have computer access at home or at school. The 2,200 students who visit BGCP and BGCSF every day use the technology at the club to support their school work and explore new interests, and this exposure to technology also helps prepare them for real job opportunities.

Many kids have developed skills that help them in their personal development. Fortenbaugh reports that when their members use technology and the arts for self-expression, the process of learning to communicate about the challenges they face can be very therapeutic.

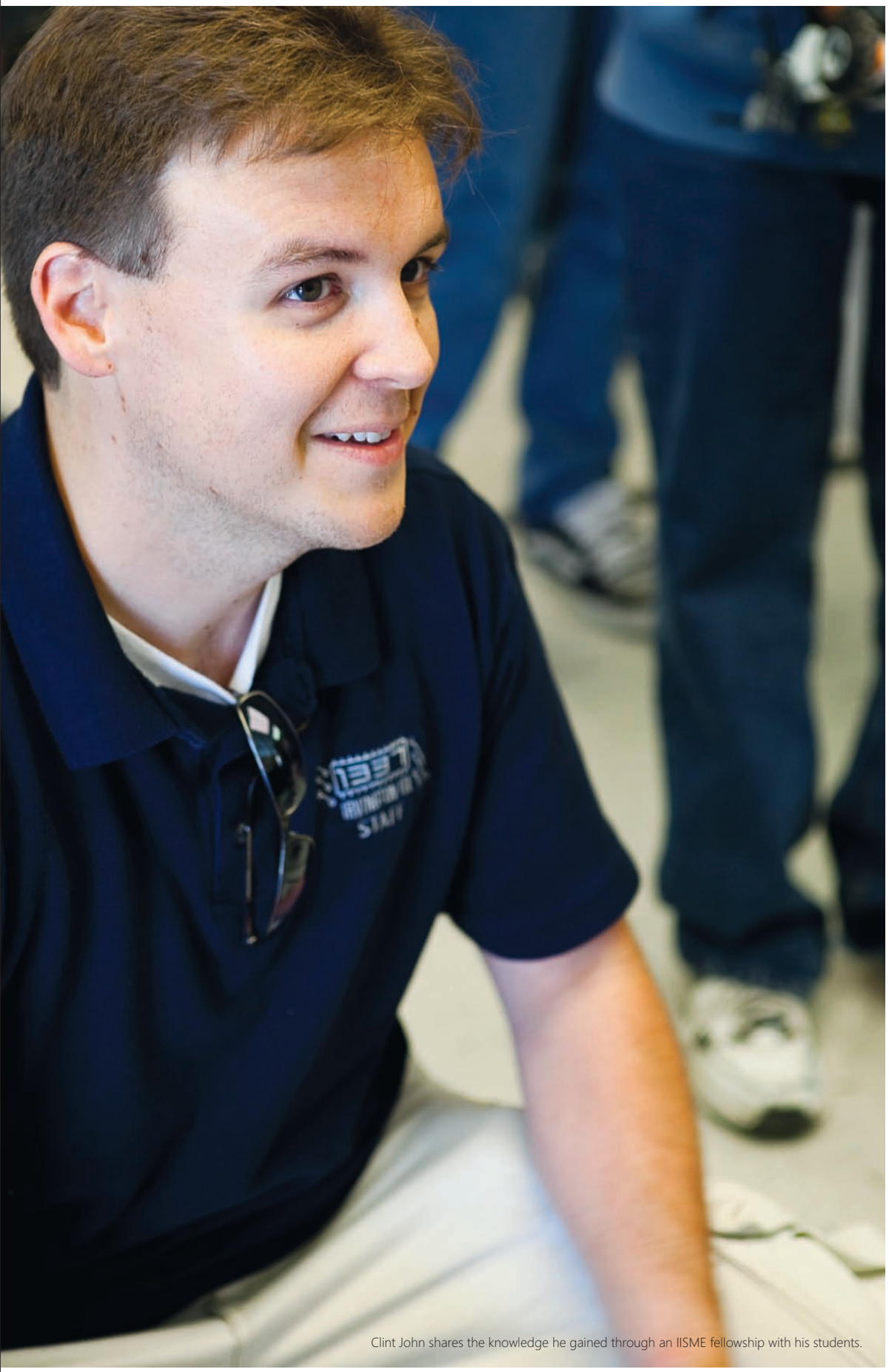
Since 1998, Microsoft has pledged $150 million to support Boys & Girls Clubs and the Club Tech program via cash, software donations, employee matching funds, and volunteerism. "We get the licensing for all the Microsoft suites for free, and that is so tremendously helpful," says Connolly. In addition, Microsoft has supported BGCSV with a donation for computer hardware.

> "It became clear to me that we were focusing on our programs and we were missing the big picture, which is that two-thirds of the kids in our neighborhoods do not graduate from high school."
>
> **—Peter Fortenbaugh, Executive Director, Boys & Girls Clubs of the Peninsula**

BGCSF and BGCP work directly with Microsoft in the Bay Area. "It's been a great partnership," says Fortenbaugh of BGCP. Sid Espinosa, director of Corporate Citizenship at Microsoft, says, "We're delighted to have been able to support both BGCP and BGCSF with contributions, through employee volunteering, and by hosting field trips. Like the club staff, we want to be positive role models for kids and help them envision a bright future."

Boys & Girls Clubs of the Peninsula, Boys & Girls Clubs of San Francisco, and Boys & Girls Clubs of Silicon Valley can always use donations and are eager for volunteers. Opportunities for field trips or summer jobs for their members are also welcome. Visit *bgcp.org*, *kidsclub.org*, and *bgclub.org* for more details.

Five friends line up for a healthy summer lunch.



Clint John shares the knowledge he gained through an IISME fellowship with his students.

STORY 06

A summer of renewal

Transformative fellowships energize teachers and benefit students

An excellent teacher can bring a lesson to life. But more than half of teachers leave the profession within five years and never develop the experience that can lead to great outcomes for students. Combine that with our need for a well-educated workforce that has strong science, math, and technology skills, and we have a problem.

The Industry Initiatives for Science and Math Education (IISME) summer fellowship program gives teachers and companies valuable resources and improves education in the process. Teachers get industry experience for two months and a stipend. Companies that hire them get a quality, educated worker—and great results. Students benefit through new curriculum developed during the internship and by the renewed motivation their teachers bring back to the classroom.

Microsoft manager Jeffrey Murray worked with a teacher who joined the Microsoft® PowerPoint® test team for the summer. "This has been a great benefit and impact to the development of future products," he says. "Our Fellow took away a greater knowledge of PowerPoint and that has helped her in her classroom … She also took away an understanding of what goes into creating a software product, which can be helpful in teaching students how to prioritize, ask questions, and experiment."

Initially, there were concerns that after their IISME experience, teachers would leave education for industry jobs, but the reverse has proven true. Despite the thrill of unlimited bathroom breaks and free coffee in their summer workplaces, teachers become so rejuvenated by their fellowships that they are eager to return to the classroom.

"We're helping keep good teachers in teaching," says Jennifer Bruckner, IISME's executive director. "The teachers are excited! They bring that back to the classroom … and the next thing you know, almost anything is possible … There's excitement and enthusiasm and kids are thinking, 'Wow, science can be cool!'"

Research shows that the Fellows remain teachers far longer than average, leaving teaching at only a quarter of the rate of their peers. And a Columbia University study proved that students of science teachers with summer fellowships had better outcomes than other students did.*

Through the Fellows, nearly two million students have been impacted, more than a third from low-income families and ethnicities underrepresented in science and technology fields. Fellows create curriculum to bring their summer experience back to their students, available online for any educator's use.

IISME is the country's oldest and largest fellowship program for teachers and the only one to focus primarily on industry positions. Nearly 3,000 teachers from the Bay Area have had fellowships through IISME since 1985. More than half are science and math teachers.

The best way to help IISME is to hire a Fellow for the summer, though they also need financial support and volunteer help. Pro bono assistance, especially in marketing, is welcomed. Visit *iisme.org* for more information.

"We're not just increasing the skills of teachers and their confidence, and their success in the classroom. We're helping keep good teachers in teaching."

—Jennifer Bruckner, Executive Director, IISME

*Teachers' Participation in Research Programs Improves Their Students' Achievement in Science | Science 16 October 2009: Vol. 326. no. 5951, pp. 440–442 DOI: 10.1126 science.1177344

Multiplying opportunities for success

Students benefit through innovative summer and weekend math programs

California ranks 40th nationally in eighth-grade math scores*, and Hispanic students' scores are significantly lower than those of white students. "For Silicon Valley, this means there won't be enough graduates in math and science to fill the gap left by the fading generation of inventors who made this region the innovation capital of the world," says Muhammed Chaudhry, president and CEO of the Silicon Valley Education Foundation (SVEF).

To address these issues, both SVEF and The Tech Museum have developed programs designed to increase success in math education, particularly for Hispanic students.

Algebra II + X = college diploma

SVEF's main goal is for more high school graduates in Silicon Valley to be prepared for college than in any other region in the state; it currently ranks fifth. Half of Santa Clara County students complete the "A-G" courses required for University of California and California State University admission, but only 26 percent of Hispanic students take the required courses.

SVEF concentrates its efforts on science, technology, engineering, and math (STEM) education. According to Chaudhry, the greatest predictor of whether a high school student will graduate from college is his or her successful completion of an Algebra II class. SVEF is finding ways to have more local students take Algebra I in eighth grade so that in high school they can go through Algebra II and go on to college.

Microsoft is a proud supporter of SVEF. SVEF's Stepping Up to Algebra (SUTA) program prepares entering eighth graders for success in Algebra I through a four-week summer program. SUTA students have consistently posted 20 percent proficiency gains after taking the course. In summer 2010, SVEF partnered with ALearn and the Hispanic Foundation of Silicon Valley in a combined effort to also help students who are entering the seventh grade with their math skills. More than 750 students in nine school districts participated, and solid gains in proficiency were seen at both grade levels.

MathWorks for the whole family

The Tech Museum is well known as a place where Bay Area community members can explore fascinating STEM-related exhibits, but it also has programs to reach out and attract people to its doors.

The Tech Museum offers a free six-week program for young students and other family members called MathWorks, and Microsoft was its exclusive sponsor in 2010. The key program goal is to give parents the skills and confidence to be able to help students with homework. The curriculum focuses on learning math concepts—not memorization of math facts. Students come from low-income families and attend schools near The Tech Museum.

Every Saturday morning, children and their families have a 90-minute bilingual (English/Spanish) class, during which they explore math through hands-on, interactive activities. The program is targeted to K-5 students, and at least one parent must participate, but other family members are welcome. After having lunch, everyone has the option to stay at The Tech Museum and also see an IMAX movie. "It's a special time during the class and at lunch, one of bonding and socializing," says Julie Smith, the education lab manager at The Tech Museum who manages MathWorks. "It helps members of the local Hispanic community feel like the museum is their place."

The Stepping Up to Algebra program helps put middle school students on the path to college.

The MathWorks curriculum is based on the well-regarded FAMILY MATH program developed at UC Berkeley's Lawrence Hall of Science. Smith attributes much of the success of the program at The Tech Museum to the instructors. Jackeline Tellez, a recent college graduate in mechanical engineering, and Michael Enriquez, who will soon enter medical school, have served as wonderful role models for the children and have helped parents believe that their dreams for their children's academic success can become a reality.

> "It's a special time during the class and at lunch, one of bonding and socializing. It helps members of the local Hispanic community feel like the museum is their place."
>
> **—Julie Smith, Education Lab Manager, The Tech Museum**

Parents and teachers notice that their MathWorks students are more engaged and attentive, especially in math, and that they enjoy the classes very much. One father commented, "My two daughters look forward to coming here every Saturday. It actually motivates them to get to bed early on Friday night!"

You can sponsor a Stepping Up to Algebra classroom, serve as a SUTA volunteer, read their education policy blogs, or support SVEF more broadly. Go to *svefoundation.org* for details. The MathWorks program can expand with more funding. For more information or to support the program, contact Julie Smith at *jsmith@thetech.org* or Dick King at *dking@thetech.org*.

After a morning at a MathWorks class, families can spend the rest of the day exploring the Tech Museum.

*www.svefoundation.org/svefoundation/howwehelp/SVEF_STEM_Education_Exec_Summary_P1.pdf

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