

Microsoft Releases National Survey Findings on How to Inspire the Next Generation of Doctors, Scientists, Software Developers and Engineers

New survey among college students and parents of K–12 students provides implications for nurturing interest in science, technology, engineering and math (STEM) careers.

REDMOND, Wash. — Sept. 7, 2011 — Microsoft Corp. today announced the findings of two national surveys, conducted online by Harris Interactive, of college students currently pursuing science, technology, engineering and math (STEM) degrees and of parents of K–12 students. The goal of the surveys was to gain insight about what can better prepare and inspire students to pursue post-secondary education in STEM subjects.

The state of STEM education has been a leading topic of conversation and concern among education leaders, teachers and faculty members, policymakers, business leaders, parents, and even students in recent years. The U.S. will have more than 1.2 million job openings in STEM-related fields by 2018, according to the U.S. Department of Labor, and, unfortunately, there will be a significant shortage of qualified college graduates to fill them.

“In today’s globally competitive and technologically driven economy, the jobs available to our country’s young people increasingly depend on the quality of the education and skills they acquire,” said Brad Smith, Microsoft’s general counsel and senior vice president. “If our students are to compete successfully for the jobs of the future, we must better prepare them to be lifelong learners and give them a strong foundation in science, technology, engineering and math. Our goal in fielding the surveys was to uncover ways to encourage interest in STEM among today’s youth — our future leaders.”

Microsoft STEM Survey Key Findings Parent Perceptions

Parents were asked about their perceptions of STEM education in K–12, and the survey found broad agreement that there is room for improvement.

- Although most parents of K–12 students (93 percent) believe that STEM education should be a priority in the U.S., only half (49 percent) agreed that it actually is a top priority for this country.
- Parents who feel STEM should be a priority said they feel this way because they want to ensure the U.S. remains competitive in the global marketplace (53 percent) and to produce the next generation of

innovators (51 percent); fewer said it's to enable students to have well-paying (36 percent) or fulfilling careers (30 percent).

- Even though many parents (50 percent) would like to see their children pursue a STEM career, only 24 percent are extremely willing to spend extra money helping their children be successful in their math and science classes.

Student Perceptions

College students pursuing a STEM degree were asked to rate how well their K–12 education prepared them for their college courses in STEM, and why they chose to pursue a STEM academic path.

Importance of K–12 education:

For many, the decision to study STEM starts before college.

- Nearly four in five STEM college students said they decided to study STEM in high school or earlier (78 percent). One in five (21 percent) decided in middle school or earlier.
- More than half (57 percent) of STEM college students said that before going to college, a teacher or class got them interested in STEM (20 percent).
- This is especially true of female students (68 percent versus 51 percent of males) who chose “a teacher or class” as the top factor that sparked their interest.

Preparedness:

- Only one in five STEM college students felt that their K–12 education prepared them extremely well for their college courses in STEM.
- Students who felt less prepared for STEM college courses said that offering more STEM courses and having better or more challenging courses would have helped to better prepare them — and for students who felt extremely or very well-prepared, it was the challenging, college prep courses that helped to prepare them.
- Females in STEM were more likely than males to say they were extremely/very or well-prepared (64 percent versus 49 percent) by their K–12 education, and females were slightly more likely than their male counterparts to say that preparing students for STEM should be a top priority in K–12 schools (92 percent vs. 84 percent).

Motivation:

Based on the college student survey findings, the motivation to pursue STEM studies did not originate from their parents telling them to select that subject area or even because they know the U.S. is in need of STEM graduates.

- Rather, students who select a STEM path indicated they do so to secure their own futures.
- 68 percent said they want a good salary.
- 66 percent said it's the job potential.
- 68 percent said they find their degree program subjects intellectually

stimulating and challenging.

Gender differences:

The inspiration for choosing STEM varied quite a bit between males and females.

- Male students were more likely to pursue STEM because they have always enjoyed playing with games and toys, reading books, and participating in clubs focused on their chosen subject areas (51 percent versus 35 percent of females).
- Female students were more likely to say they chose STEM to make a difference (49 percent versus 34 percent of males).

The president's "all hands on deck" call to improve STEM education has galvanized the industry to do more. In his State of the Union address in January 2011, President Obama said, "Maintaining our leadership in research and technology is crucial to America's success. But if we want to win the future — if we want innovation to produce jobs in America and not overseas — then we also have to win the race to educate our kids." The private sector is responding to Obama's call not just with financial support, but also with commitments that take advantage of their core competencies and the skills and passion of their employees. More than 100 CEOs, including Microsoft's, have come together to launch [Change the Equation](#), a historic effort to scale up effective models for improving STEM education.

"Inspiring student appreciation and excitement for STEM programs and careers is critical to ensure our nation's prosperous future," said Linda P. Rosen, CEO, Change the Equation. "These surveys show that parents and students want a greater focus on STEM in K–12 schools and realize the importance of STEM skills not only to obtain a good job, but for the economy at large."

Microsoft Support of STEM Education in K–12

As part of its corporate citizenship approach, Microsoft has made significant investments in STEM education and to inspire young people to consider careers in STEM-related fields.

To help get kids excited about technology and gaming, Microsoft Research developed the [Kodu](#), a free game-design tool that provides an end-to-end creative environment for designing, building and playing one's own new games.

To engage female students in particular on STEM learning, the DigiGirly program gives high-school girls the opportunity to learn about careers in technology, participate in hands-on computer and technology workshops, and connect with Microsoft employees. [DigiGirly High Tech Camps](#) are offered several times a year in many cities across the U.S. The camp program was established in 2000 and continues to grow and evolve.

Microsoft [Imagine Cup](#) is the world's premier technology competition for students ages 16 and up and honors student innovations that address

global problems, such as accessibility in education, poverty, maternal health and environmental sustainability. Now in its ninth year, Imagine Cup has grown to be a truly global competition focused on finding solutions to real-world problems. In 2011, more than 350,000 students from 183 countries registered for the competition.

And to support STEM at a local level, Microsoft partnered with the Bill & Melinda Gates Foundation, the Boeing Company and other local companies to create Washington STEM, a nonprofit focused on improving STEM teaching and learning. [News Press Release](#)

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And to support STEM at a local level, Microsoft partnered with the Bill & Melinda Gates Foundation, the Boeing Company and other local companies to create Washington STEM, a nonprofit focused on improving STEM teaching and learning in Washington state. The organization launched in March 2011 with \$2.4 million in inaugural grants to teachers and education nonprofits across the state to help ensure all Washington students have the strong STEM foundation needed to succeed in today's knowledge-driven economy. Microsoft also committed a \$6 million investment to support Washington STEM over the next three years.

"Our goal is nothing less than an excellent STEM education for every child in every corner of our state," said Julia Novy-Hildesley, CEO of Washington STEM. "While Washington ranks fourth in technology-based corporations, we rank 46th in STEM graduates. We need to work together to infuse the innovation and invention that drives our economy into excellent and effective STEM teaching and learning for our kids."

The surveys were conducted online within the United States in May 2011 by Harris Interactive on behalf of Waggener Edstrom Worldwide and Microsoft among 1,074 parents of children ages 17 years or younger, 854 of whom are parents of K–12 students, and 500 U.S. undergraduate college students, ages 18–24, who are currently pursuing a STEM degree. Data were weighted to be representative of the populations of interest. These online surveys are not based on a probability sample, and therefore no estimate of theoretical sampling error can be calculated. The full report can be found [here](#).

About Harris Interactive

Harris Interactive is one of the world's leading custom market research firms, leveraging research, technology and business acumen to transform relevant insight into actionable foresight. Known widely for the Harris Poll and for pioneering innovative research methodologies, Harris offers expertise in a wide range of industries including healthcare, technology, public affairs, energy, telecommunications, financial services, insurance, media, retail, restaurant, and consumer package goods. Serving clients in over 215 countries and territories through our North American, European, and Asian offices and a network of independent research firms, Harris specializes in delivering research solutions that help us — and our clients — stay ahead of what's next. For more information, visit <http://www.harrisinteractive.com>.

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Founded in 1975, Microsoft (Nasdaq "MSFT") is the worldwide leader in software, services and solutions that help people and businesses realize their full potential.

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