

(L to R) Samsung EVP David Steel, John Legend, and Samsung President and CEO Y. K. Kim with the winners of the 2012 Samsung Solve for Tomorrow contest



How to Make STEM Education Cool for Students

By David Steel

Of all U.S. high school students who graduated in 2011, only 45 percent were ready for college-level math and a mere 30 percent were ready for science, according to ACT, a college-entrance testing agency. These data reflect the great challenge facing the United States in preparing students for science, technology, engineering, and math (STEM) careers needed to bolster our economy and ensure a promising future for American youth.

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One of the obstacles to solving this problem is that students are simply not interested in or excited by STEM subjects. With the notable exception of Iron Man's alter ego Tony Stark, our popular culture doesn't often celebrate engineers, scientists, or mathematicians. According to a recent survey by Intel Corporation and Change the Equation, a nonprofit coalition of more than 100 CEOs focused on STEM learning in U.S. schools, three out of five teenagers have never considered a career in engineering. So it's no wonder that high school students can't appreciate how STEM learning translates into a career.

It's not that students don't like engineers or engineering. The survey also shows that teenagers just do not understand what an engineer does. When the teenagers surveyed understood that engineers create the tools and experiences that comprise their daily lives—texting on their smart phone, sharing experiences with friends on Facebook, or creating gaming technologies—more than half then expressed an interest in engineering.

As someone who earned his PhD in science and now works in corporate management, I know the unique benefits that come from a STEM education. Logic, problem solving, and quantitative thinking all contribute to professional success. The benefits of this training were especially evident during the 10 years I spent working for Samsung in South Korea, where there is a clear emphasis on STEM education. In fact, the company's commitment is reflected in our employees, who hold about 21,500 master's degrees and 4,600 doctoral degrees worldwide.

The difficulties of getting students excited by science are many. But one opportunity to change this situation is for technology companies to step up to raise interest in STEM education. While schools focus on educating students in STEM, the tech sector can help address the challenge of interest. After all, it's easier for tech companies to see the direct benefits of STEM since we live and breathe it every day.

This is why collaboration between corporate America and the education sector is key to promoting this awareness. Many companies today are sending scientists and engineers into schools to talk about technology-focused careers and real-life experiences with hopes of stirring interest. Increased interaction between students and STEM professionals can help show that it is possible to study STEM subjects and still be cool.

There are other structured ways businesses can support students' hands-on application of STEM subjects, such as creating and sponsoring competitions and science fairs. For example, Samsung partners with Microsoft, Adobe Foundation, DIRECTV, and leading education



Desert Wind Middle School from Maricopa, Arizona, met with Senator John McCain when they were in Washington DC, for the 2012 Samsung Solve for Tomorrow awards luncheon.

PTA Supports STEM

To help get children more involved in science, technology, engineering, and mathematics, National PTA supports Samsung's Solve for Tomorrow initiative and the FIRST Robotics Competition. Solve for Tomorrow has used technology as a motivator to raise awareness and interest in STEM learning among teachers and students. It engages schools, local communities, and the news media by promoting student-created videos on www.Samsung.com/solvefortomorrow, social media and partner websites. The FIRST Robotics Competition attracts more than 300,000 contestants annually to compete in age-appropriate divisions, from the Lego League in the early grades to the tech competition in high school, and gets them interested in STEM through practical applications.

organizations in a nationwide contest called Solve for Tomorrow that aims to get kids and communities excited about STEM. By challenging students to make videos about how STEM can help real-world environmental issues in their local communities, they understand the relevance of STEM, while using the latest technology to study the issues in a fun way.

A similar approach can be seen from For Inspiration and Recognition of Science and Technology (FIRST), a nonprofit that channels interest in STEM through team competitions. Dean Kamen, the inventor of the Segway, founded FIRST to inspire kids the same way that athletes and movie stars do—by showing them the sky is the limit. But instead of being motivated to work on their three-point shot in the hopes of becoming a professional athlete, he wanted them to be empowered by scientists and engineers to be big thinkers.

Kamen likes to point out that an important difference between the FIRST teams and sports teams is that every kid on a FIRST team can “turn pro.” FIRST has motivated 250,000 kids ages 6 to 18 to compete in FIRST events. Studies also show that kids who participated are 50 percent more likely to go to college and twice as likely to major in science or engineering.

With the great challenge of raising the interest level in STEM subjects, there is much that technology companies can do to help children see STEM as cool.

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Solve for Tomorrow