



The Computerworld Honors Program

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Final Copy of Case Study

Status:

Laureate

Year:

2013

Organization Name:

Silicon Valley Education Foundation

Organization URL:

<http://svefoundation.org>

Project Name:

Stepping Up to Algebra – 1:1 Computing Labs

Please select the category in which you are submitting your entry:

Philanthropy

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

Silicon Valley is world-renowned as the leading hotbed of technology. Unfortunately, many of Silicon Valley's public schools do not match the region's reputation for cutting-edge innovation and top-notch engineering talent. Many schools struggle with budget constraints and lack the resources to support technology deployment in their schools or provide additional instruction to foster skills in science, technology, engineering and mathematics (STEM) required of a 21st century workforce. The Silicon Valley Education Foundation, a non-profit organization, works with local schools to reinvigorate their focus on STEM and help students confront a common challenge on the STEM pathway: Algebra 1. Leveraging the open-source curriculum of Kahn Academy and other applications

to track students' progress, SVEF has developed a 75-hour, intensive summer program called "Stepping up to Algebra" (SUTA) that serves nearly 1,000 students and continues throughout the year with after-school sessions. Held at local schools, the program prepares students for eighth-grade Algebra, so they are successful during the school year and continue to advance their skills in STEM. The results speak for themselves: assessments of students after program completion show a phenomenal 31 percent gain in math proficiency. SVEF strives to provide every student with their own device to use in the "Stepping Up to Algebra" program to further engage their students in learning and better track their progress with online software tools. Last summer, SVEF nearly achieved a 1:1 computing ratio thanks to a donation of 500 Dell Wyse thin clients from Dell Cloud Client Computing. Typically, students are only allowed 1 hour of access to the school computer lab a day, which limits the program's impact. With the thin clients, SVEF set up temporary computer labs at the local schools to better engage students in their learning.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

Since launching SUTA in 2008, SVEF has leveraged open source, online software to reinforce the curriculum with practice tools and games as well as enable teachers to monitor student comprehension of the lesson and pinpoint areas of struggle. The summer course is impacted, and online tools extend learning beyond the instructional time in the classroom to maximize student achievement. Furthermore, integrating the use of technology in lesson plans builds students' technical skills for better workforce preparation and stimulates curiosity about technology and STEM-related fields. In June 2012, SVEF and Dell Cloud Client Computing were able to significantly enhance the technology portion of the SUTA program and nearly achieve a 1:1 computing ratio with the donated Dell Wyse T50 thin clients. Through access to a device, students benefit from a personalized learning experience and have online tutoring tools and resources at their immediate disposal. And, with more use of the online comprehension tools, teachers have more data to gain valuable insights into their students' mastery of the curriculum. By taking a thin-client approach, SVEF was able to set up the temporary labs easily and maintain them throughout the session without technical difficulty. Dell Cloud Client Computing is working with SVEF again this summer to help them achieve a 1:1 computing ratio for the "Stepping Up to Algebra" program.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

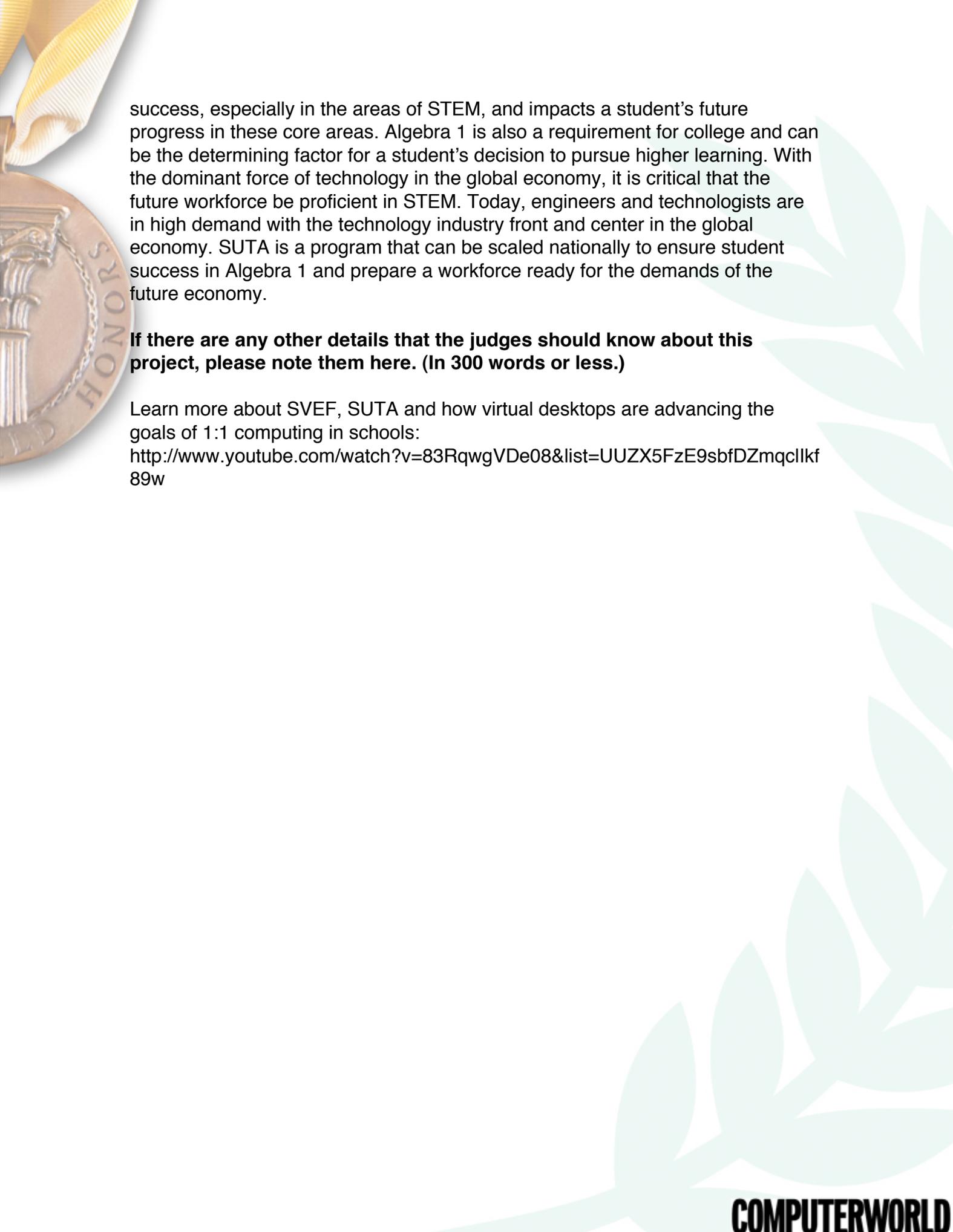
SVEF administers the "Stepping Up to Algebra" program annually, and will continue to integrate online, open-source software tools in the curriculum. Working with Dell Cloud Client Computing, SVEF hopes to provide each student with a device for use during the program each year.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)

SVEF has made a measurable difference to the academic trajectory of the 42 percent of middle school students who test below proficiency in mathematics. Pre- and post-testing assessments evaluating nearly 1,000 students who took part in the "Stepping Up To Algebra" program in summer 2011 reported that these students achieved a double-digit percent gain (+31%) in math proficiency. In addition to students achieving greater math skills, teacher and student interviews reported positive attitude changes towards math, which in turn can have an influence on future interest in STEM. The program also focuses students' aspirations on college, and 93 percent of teachers agreed that SUTA raised student awareness and motivation to attend college. Nearly all (95%) students surveyed have plans to complete college, with 58 percent reporting they want to pursue an advanced degree. By employing more innovation in the classroom and achieving a 1:1 computing ratio, it is expected these results will continue to improve. As SVEF CEO Muhammed Chaudhry explains, "Personalized learning will disrupt the traditional one-way teaching models in classrooms today. With 1:1 computing in the classroom, students are able to more deeply engage in their lessons. And the data generated from online comprehension tools gives teachers valuable insight into student's progress. Dell Cloud Client Computing's innovative technology has been instrumental in SVEF's ability to deliver a two-way, interactive learning experience that crystallizes skills in math and science."

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

SVEF's approach of engaging students early in their academic careers just before entering Algebra 1 is an innovative way to increase student achievement in STEM. Research shows that Algebra 1 is a strong indicator of future academic

A gold medal with a ribbon is visible on the left side of the page. The medal features a classical architectural column and the word "HONORS" around its edge. On the right side, there is a light green laurel wreath graphic that extends from the top to the bottom of the page.

success, especially in the areas of STEM, and impacts a student's future progress in these core areas. Algebra 1 is also a requirement for college and can be the determining factor for a student's decision to pursue higher learning. With the dominant force of technology in the global economy, it is critical that the future workforce be proficient in STEM. Today, engineers and technologists are in high demand with the technology industry front and center in the global economy. SUTA is a program that can be scaled nationally to ensure student success in Algebra 1 and prepare a workforce ready for the demands of the future economy.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

Learn more about SVEF, SUTA and how virtual desktops are advancing the goals of 1:1 computing in schools:

<http://www.youtube.com/watch?v=83RqwgVDe08&list=UUZX5FzE9sbfDZmqcllkf89w>