

## **California Students, Teachers & Parents “Speak Up” about Career Technical Education**

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### Background

For the past four years, the NetDay Speak Up National Research Project has collected and reported on the authentic, unfiltered ideas and viewpoints of 857,000 K-12 students, teachers and parents representing over 10,000 schools from all 50 states and American schools on military bases worldwide. The Speak Up surveys, which are 100% online, poll these key education stakeholders in a convenience sampling about their attitudes and perceptions regarding timely topics in education policy and program development including technology use, 21<sup>st</sup> century skills, math and science instruction and designing new schools for the 21<sup>st</sup> century. The goals of the Speak Up Project are three fold: 1. **To collect “no-spin zone” ideas and views from education stakeholders that are often overlooked or whose views are not accurately represented in policy discussions;** 2. **To stimulate local and regional conversations around important education topics between students, teachers, parents and administrators;** and 3. **To draw national awareness to the need to engage and empower students, in particular, to be part of these national and regional discussions about the direction of American education.** The data findings are shared each year with federal, state, regional and local agencies, departments and organizations to inform their policy and program development efforts. Across the country, schools and districts are effectively using their own Speak Day data (which is provided to each participating school and district) to improve teacher training, restructure curriculum, enlist community support, enhance decision-making and budgeting, and to engage their students in local planning efforts that affect education outcomes.

The major question themes for the Speak Up 2006 surveys were the following: teaching and learning with technology, communications and self-expression, global collaborations, 21<sup>st</sup> century skills, math & science instruction, designing new schools for 21<sup>st</sup> century students and the impact of the global economic challenges on American education. The online surveys were open for input from November 1, 2006 through December 15, 2006. Speak Up 2006 represented the first time we offered a parent survey. **Total surveys submitted nationwide were 232,781 surveys from K-12 students, 21,272 surveys from K-12 teachers and 15,316 surveys from parents. In California, total surveys submitted were 23,800 K-12 students, 1,718 teachers and 2,062 parents.** Total surveys submitted from California ranked 3rd in the nation, trailing only Texas and Illinois in participation. The Speak Up data analysis effort is supplemented annually by a series of focus groups with students, teachers and parents that we conduct nationwide, including several planned this year in California. Participating schools and districts have had access to their own aggregated data since late January. On March 21<sup>st</sup>, we will be releasing our national findings in a Congressional Briefing in Washington DC, followed by a series of themed reports later in the spring.

The Speak Up project is a national initiative of Project Tomorrow ([www.tomorrow.org](http://www.tomorrow.org)), a national education nonprofit group based in Irvine, California. The vision of Project Tomorrow is insure that today’s students are well prepared to be tomorrow’s innovators, leaders and engaged citizens of the world. We believe that by supporting the innovative uses of science, math and technology resources in our K-12 schools and communities, students will develop the

critical thinking, problem solving and creativity skills needed to compete and thrive in the 21<sup>st</sup> century. We approach our mission through national research projects such as Speak Up, the replication of model excellence projects in schools and communities, online tools and resources for students, teachers and parents, and national and regional advocacy efforts. The Speak Up National Research Project is funded through grants, corporate and private donations.

### **Speak Up Data to Inform Career Technical Education Policy**

The Speak Up database represents the largest collection of authentic, unfiltered feedback from K-12 students, their teachers and parents about education and technology issues. Several questions on this year's Speak Up surveys directly address issues central to Career Technical Education policy discussions, and provide first hand input for effective and meaningful program development. Additionally, the comparative differences between the attitudes, perceptions and aspirations of the students, teachers and parents on these issues presents a unique window into the "in the schoolhouse" realities around CTE that can be very valuable in planning for successful program implementations. The specific Speak Up data findings from California students, teachers and parents are therefore a critical input into the development of effective, meaningful CTE policies and programs that will insure that today's students are well prepared for rewarding and productive career opportunities, and that the economy and evolving demands of California business and industry is well served by the outcomes.

We know from our 4 year study of the attitudes and behaviors of today's students that technology is central to all aspects of their lives. Today's students view learning, living and technology as intrinsically interwoven. From using the Internet to research new solutions to global warming to playing online video games with new "friends" in China, technology has opened up avenues for self-expression, communications, collaborations and learning opportunities for today's digital natives that extend way beyond the expectations of the "digital immigrants," the adults who have had to "learn" how to use technology for our work. For today's students, the term "education technology" is truly redundant – technology is education, and education is technology.

Today's students, also, have a very clear expectation around the value of technology as it relates to their future job or careers. 70% of the California students in grades 9-12 from this year's Speak Up polling believe that developing good technology skills are important for finding a good job in today's economy; and over two-thirds of their parents and teachers hold that same value. When asked about what types of skills every student should have upon graduation from high school to get a good job, our California students again supported technology skills as one of the top 3 essential skills. Parents in particular placed a very high premium on tech skills as a graduation imperative with 67% of our California parents ranking that as important. And yet, despite this strong resonance around the value of good technology skills and the importance of those skills for future job success, students continue to be frustrated and disappointed with the level of technology in their schools, and the limitations placed on their technology use by school rules and regulations. When asked about the #1 obstacle to using technology more at school to develop these critical skills, students in grades 3-12 identified the same obstacles: rules that limit technology use during the school day, lack of time to use the technology during the school day, teachers' control of technology resources and computers that don't work. Students have a very

clear understanding of the linkages between good technology skill development and access to potential jobs and careers in industries central to California's economic competitiveness, and believe that school limitations are impacting their future opportunities. As one student from a challenged community asked us in a focus group, *"Don't the teachers realize that when they don't allow us to use technology in school, they are limiting our future?"*

Beyond technology skill development, today's students are also very interested in learning real world job skills as part of their overall education. From our work with today's youth, we know that contextual learning around real world problems is an especially meaningful learning experience. When asked, "what should your school do so that you can get a good job in the future," the #1 response from over 50% of students in grades 6-12 from California schools was *"teach me skills I need for future jobs."* In similar fashion, parents and teachers place a high premium on those kinds of career and technical education skills. 45% of parents and 53% of teachers told us that career and vocational skills were essential for all high school graduates. Even stronger, 79% of parents and 58% of teachers identified "preparing students for college and work" as a key goal for any high school. And yet, when asked if their schools were doing a good job of preparing today's students to compete for jobs and careers in the 21<sup>st</sup> century, 51% of K-12 parents and 42% of teachers did not think so. While this is concerning, California parents and teachers have many good ideas on how to better prepare today's students for jobs of the 21<sup>st</sup> century and share those with us through an open-ended response question. Examples include:

- *"Develop a solid educational program that interweaves technology, critical thinking and problem solving into core academic areas and provides essential electives to complement the academics."*
- *"Teach students to learn about themselves through work related experiences, educate them about the real world relevance of courses offered."*
- *"They need to be learning career related information, providing more hands-on opportunities to make education "real" and applicable."*

Career technical education today encompasses all aspects of contextually based learning and it has evolved to be much more than auto mechanics. Despite gains in some areas, it is increasingly disconcerting to many California and national business leaders that today's students are not interested in jobs and careers central to economic competitiveness. When asked about future careers, approximately 40% of students in grades 3-12 told us that they are not interested in careers in science, math or technology. While our youngest students in grades Kindergarten through second grade still show an interest in STEM oriented jobs and careers, the current teaching methodologies in the sciences and math (traditionally text book oriented) appear to be discouraging students from these interests by third grade. When probed about science and math instruction, we learned that students from Kindergarten through 12<sup>th</sup> grade would prefer to learn science and math through hands-on investigations solving real world problems, by talking to professionals in those fields, by visiting places where science and math is important, and by learning skills necessary for real jobs. So, for example, students want to learn about electrical circuitry by talking with an electrical engineer who is designing the next generation of semiconductors, or to experience geometry through an internship with an architect who is designing a community recreation center. Students are also increasingly interested in global collaborations facilitated by technology as part of their learning experiences. Through an open-

ended question, students provided us with their ideas for global projects to learn real world skills, such as *“I would like to do an international trade project with an imaginary business that trades with Japan. We would learn a lot about business, economics and international relations.”*

## **Recommendations**

### **1. Engage key education stakeholders in discussions about career technical education.**

To insure relevancy and value, it is highly encouraged that students, teachers and parents be an integral part of policy and program discussions around effective Career Technical Education initiatives. Students, teachers and parents bring unique perspectives to this discussion. Students, in particular, have a keen interest in reforming education content and delivery, especially in high schools. Additionally, engaging our digital natives in this discussion can provide opportunities for all of us to learn how to leverage technology resources more effectively for life-long learning. Through input from teachers, we have learned that the CTE discussions need to better address how to incorporate career exploration into core academics on a regular basis. As a recommendation, we would like to encourage the State of California to partner with Project Tomorrow on the 2007 Speak Up National Research Project in three specific ways:

- Develop new survey questions that would result in specific data for the CTE state and regional discussions.
- Promote the Speak Up opportunity statewide so that more schools and districts will participate thus increasing the value of the state specific data, and providing schools and districts with first hand data from their own education stakeholders that they can use to drive local solutions.
- Host a special “Speak Up” event exclusively for California on the topic of career technical education to gain deeper insights and data to support key initiatives and policies.

### **2. Provide a variety of CTE courses and experiences that reflect how students want to learn and explore careers and jobs of the future.**

Leveraging widespread student interest in learning skills for future jobs and careers, our education leaders working in conjunction with industry experts need to develop a fuller catalog of CTE courses. It is essential that these CTE courses reflect how students want to learn core curriculum and how they want to explore careers. We need to think outside of the traditional course format in terms of class content and delivery. When asked about online learning for example, 26% of California high school students in our poll would be interested in an online class for vocational or job training. Project Tomorrow’s Science Docent Program is an excellent example of a CTE course that addresses career exploration in a way that is reflective of the students’ desires for new learning modalities. Our Science Docent Program, which is currently in place in three high schools in Orange County, with plans for expansion to 10 high schools for the 2007-08 school year, teaches high school students in a year long course how to deliver hands-on, standards-based science lessons to elementary students. Through delivery of these student developed science lessons, the elementary students receive a more meaningful science learning

experience and develop a lifelong passion for science. At the same time, the high school students are exploring teaching as a potential career and developing strong 21<sup>st</sup> century job skills that are applicable to many different careers.

**3. Build strong partnerships between business and education as a means to retain the context for CTE courses and to keep learning and exploration opportunities fresh and dynamic for students.**

Project Tomorrow and AeA (American Electronics Association) Orange County Council have developed a strong partnership around CTE that could be a model for other regions or the State of California. As a collaborative, we recognize and honor each year educators who are leveraging science, math and technology resources to insure that today's students are well prepared for jobs that will drive economic competitiveness. The Innovation in Education Awards are announced in conjunction with the AeA's annual High Tech Awards program recognizing corporate excellence, thus elevating innovation in education to the same level as innovation in business. Additionally, we co-host an annual Innovation in Education Summit each year to bring together Orange County stakeholders to create a local action plan to insure that K-12 education is in sync with workforce goals. This year's Summit will be held on May 24<sup>th</sup> with 250 business, education, community, policy, parent and student leaders participating. The AeA-Project Tomorrow partnership is also currently working on the facilitation of a new leadership council of corporate CEOs and School District Superintendents as a forum for the exchange of new ideas specifically on the topic of preparing today's students.

**4. Provide sustainable opportunities for all students to explore careers in their own communities.**

All across the country, there are many fine examples of companies and schools teaming up to provide students with opportunities to explore careers through internships, job shadowing days, career days and mentoring. These efforts however are usually informal, sporadic and not effectively evaluated for long term impact. Recognizing both the needs for these kinds of learning experiences for our students and the realities of business-to-school communications, Project Tomorrow, again in collaboration with AeA, is piloting a new model in Orange County that could be valuable for other regions. We are currently in development on a match making process that will identify corporate human resources (i.e. engineers, scientists, mathematicians) to provide both short term and longer term mentoring & internships for students interested in careers in emerging industries. Project Tomorrow will facilitate the interactions and the evaluation of impact, thus alleviating both the school and the businesses from the management of the process. The kick off for this career exploration match making service will be a one day, countywide event in Orange County called "Tomorrow Day: in fall 2007. We will be happy to share results from this initiative with other groups interested in this model.

Project Tomorrow respectfully thanks Governor Schwarzenegger for convening the CTE Summit and providing an opportunity for us to share our research findings and recommendations.