Connectivity at High Tech High

student learning in small schools

Gil Shafir, HTH senior

Introduction

Within the first week we had to start our digital portfolio, and I got introduced to the subject of web design. I read a book to learn to do HTML, and I started reading book after book about website design. A year and a half later I was already doing work for this company, and now I go to seminars on web design. I met a guy in multimedia at San Diego State University, and we kept in constant contact, talking about what I could do. He is now my mentor on my internship.
— Jose, HTH student

It's different working with another person. You might have one idea of how you want it to turn out, but they have a different brain and they might have another idea. Part of the reason they have us do group work, I think, is so that we can learn to work with people we probably wouldn't otherwise want to work with. In college and in your career you might need that. —
Max, HTH student

With the lively but purposeful tone of a high-tech workplace, San Diego's High Tech High (HTH) aims to know its students well, forge strong connections between their academic work and the outside world, and hold the entire enterprise to a common intellectual mission.

Founded in 2000, the Gary and Jerri-Ann Jacobs High Tech High Charter School draws inspiration, support, and purpose from San Diego's high-tech community. Funders like Qualcomm—after whose $3 million donor this public school is named—have been pivotal partners.

Selected by lottery from San Diego's diverse neighborhoods, HTH's 350 students move among state-of-the-art specialty labs, seminar rooms, and individualized computer workstations as they pursue projects about molecular biology, robotics, painting, bridge building. The school's spacious physical plant—a renovated former U.S. naval base, crisscrossed with networking cables and decorated with framed works of art—has the entrepreneurial feel of a successful dot-com startup.

Projects both in and outside school form the foundation of the curriculum right from the student's first year. By junior year, students are out in the San Diego community part time, in internships that match them with workplace mentors. Their role is not just to learn but also to create something of value for their employer—from websites to water quality proposals, documentaries to community surveys. In his junior year, for example, Kiel created a video about HTH's internship program. The school had over 300 copies made, for use with funders, prospective employers, parents, and others. "I cared about the video because it was an important thing," says Kiel. "Because it was important to them, I gave it my best effort."

HTH links to the outside world not just through student internships. The school recruits teachers from the professional world; many have come from careers as scientists, artists, or leaders in business and industry. Professors from San Diego's community college system offer courses in HTH classrooms for which students earn college credit as well as meeting HTH curricular requirements.

The school also seeks out the public eye for its students and their work. Art students display their creations at local galleries. Students present environmental proposals before the city council or school-design blueprints at educational conferences.

And just as HTH students go out into the world, they also invite the world in—through the digital portfolio. Here students report on their coursework and projects, showcase their writing and art, and reflect on their learning. In a personal statement they revise each year, students practice "telling their story" to an audience that doesn't know them. In a section called "Mi Mundo," students write about their family and community in Spanish—the first language for 21

High Tech High at a Glance

The product of a coalition of educators and high-tech leaders, High Tech High comprises two divisions. Students in Division I (grades 9-10) study math, science, Spanish, and integrated humanities while completing projects in and outside school. In Senior Institute (grades 11-12), students pursue more advanced coursework and internship developed in consultation with a school advisor and worksite mentor.

All HTH coursework and projects incorporate the school's five habits of mind: perspective, evidence, relevance, connection, and supposition. Every project culminates in a final exhibition before an audience of experts, teachers, peers, and family.

Daily group planning time gives HTH teachers a chance to plan and review the learning program that features integrated curriculum, team teaching, project-based learning, and performance-based assessment. HTH also helps prepare future teachers; it offers pre-service internships for Masters in Technical Education students at San Diego State University and other local teacher preparation programs.

HTH will graduate its first senior class in June 2003. A new High Tech Middle School will open in fall 2003.

percent of San Diego's residents. The student's own resume, explicitly intended to result in a real workplace interview, forms part of every portfolio.

With no more than 100 students per grade, the school's small size allows teachers and students to form close relationships. Students stay with the same advisor throughout their HTH career, and in seminar rooms, labs, and mentorships, teachers and students come together in small groups that encourage collaboration and careful monitoring of progress.

The same collaboration and real world links unite HTH teachers, for whom teaching in teams of three, combining subject matter, and making work public are the norm. "You have three chiefs, each in their own discipline," says math teacher Susan Reed. It's a learning process for all. "This isn't comfortable to most teachers," adds science teacher Andrea Cook, "because you don't have the answers. You have to make connections to pull it off, not be afraid to call up people and talk to them."

In the sections that follow, we offer several perspectives on the connectivity and teamwork that infuse High Tech High. Click below for vignettes of selected classroom projects (from both faculty and student perspectives) and the resulting student work; a student roundtable on teaching and learning at HTH; and exemplary digital portfolios.

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