SAINT ANDREW'S EPISCOPAL SCHOOL

COURTESY OF SAINT ANDREW'S EPISCOPAL SCHOOL

T IS FOR TECH

Private schools blend digital learning with classroom teaching

BY SUSAN KERR

Blame it on the iPad.

Thoughtfully and meticulously, San Jose's Almaden Country School not too long ago developed a five-year plan detailing the role computer and digital technology would play within the walls of its preschool through eighth grade classrooms. The tech-savvy school's digital expertise already included a traditional computer lab, as well as a one-to-one laptop program—whereby it supplied middle school students with their own portable devices. Then in April 2010, Apple Inc.'s sleek, shiny iPad tablet computer exploded onto the scene.

"We had to adjust our plans to figure out how to use them," says Mary Beth Gay, ACS's director of technology. Jumping right in, initially with the help of a parent donation, the school has since incorporated 60 iPads into its everyday learning environment, helping students with everything from math to English to French.

In nearby Saratoga, Saint Andrew's Episcopal School Director of Technology Adrian Bica can sympathize. Also a coed school with an innovative technology program designed to serve students through the eighth grade, Saint Andrew's is in the midst of formulating its own five-year strategic plan. "But how do you do that with technology?" Bica wonders aloud, only half joking.

By virtue of geography, South Bay private schools hold a unique position when it comes to integrating computers with educational curriculums. Because many, if not most, student families have inside connections with the high-tech business world, "Silicon Valley parents equate innovation with new technology," as one local educator succinctly puts it. This intimacy with the tech world presents both pedagogical challenges and opportunities. »

KEHILLAH JEWISH HIGH SCHOOL

EDUCATING DIGITAL CITIZENS

Kids—particularly those here in Silicon Valley—have been wired (or more accurately Wi-Fi-ed) since birth. With rare exceptions, such as the Waldorf School of the Peninsula that eschews high-tech classrooms, most local private schools want to play a major role in teaching their young "digital natives" how to become good digital citizens. In fact, they see no other option.

What they are discovering is that the digital age is leading to significant changes in how, what—and where—students learn. Along the way, many expectations of what role computers would play in the classroom have been tossed aside, rules rewritten and a startling new flexibility demanded of school administrators.

First and foremost, while proximity to such heavyweights as Apple and Google Inc. makes South Bay schools ideal test beds, schools have learned that a glossy new computer, piece of software or digital app is useless without the right training and setting. "What has surprised me the most is how important it is to integrate (technology)," says Meeta Gaitonde, library and technology associate at the Phillips Brooks School in Menlo Park, which educates students from preschool through grade 5. "We always need to step back and ask do we want something because it is meaningful or is it because it's really cool?"

Where that meaning is to be found has shifted. A decade ago, a common public conception was that classroom computers were some sort of a silver bullet—a fast and powerful way to miraculously boost student achievement (typically measured by standardized test scores). But now, several years down the road, concrete proof of that tie-in remains elusive.

FLIPPED OUT

"Our rule of thumb is that curriculum drives what goes on in the classroom," says Janice Tupaj-Farthing, vice principal of academic affairs at Notre Dame San Jose, the oldest private college preparatory high school for women in California. "Technology is one tool available to us."

But on a recent visit to Notre Dame, it quickly became clear just how powerful a tool it is.

The high school is one of a number of private Silicon Valley schools that is looking forward–forward, that is, to the brave new world of "flipped" instruction. Simply put, flipping means reversing the traditional classroom/homework model where a teacher lectures students in class and then sends them home to work on concepts themselves. In a flipped class, students watch video lessons or access Internet resources outside of school hours and then come prepared to work on those concepts with the help of the teacher.

Notre Dame Mathematics Department Chair Liz Milanovich is excited about the potential of flip teaching, and this year, her department is flipping two classes. Some science and language teachers at Notre Dame are also experimenting with reverse instruction.

While some schools use video tutorials created by third parties, Notre Dame is creating its own. Milanovich's videos range from five to 20 minutes long and are uploaded to a restricted YouTube site. "The learning curve is huge," acknowledges Milanovich, "but I still want to deliver my own level of detail to emphasize those things I need to."

Observing a Notre Dame trigonometry class shows how different a flipped model is. Instead of obediently facing a lecturer pacing in the front of the room, the students were grouped in fours, working on problems. Some were using laptops, some held calculators, some working in pencil. The teacher roamed the room, helping and answering questions as they arose.

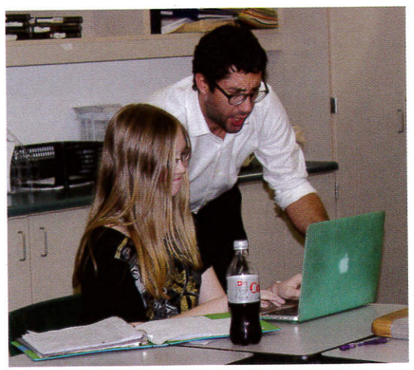
"I like it because I have a set amount of work at home, and if I struggle, I can get the help I need in class," says one student, Jenny (to protect students' identities, names have been changed).

Abby, her classmate, concurs. "It expands the relationship between the teacher and the student," she says. Interestingly enough, this expanded face time with teachers has come as her time on computers has grown. "I probably use a computer three times as much (in school) as not that long ago," Abby says.

One mom, whose daughter is a Notre Dame junior, has seen the benefits at home. "The stress level has gone down enormously," this mom says. "My daughter can rewatch videos at home of the lecture if she's confused. It's been a big success for her."

Most educators agree that flipped instruction works best with older students, because it takes motivation and discipline to watch the videos at home. Also, schools need to make sure that students have access to technology in the off hours. Thus, they either have to be ready to supply systems to students who need them or maintain a computer lab at school.

Even when classes aren't flipped it's become more common for teachers to use technology so that students can access lectures on their own time, either taping classes or putting notes and presentations online. At Kehillah Jewish High School, Dean of Student Advising Sam Patterson recalls his own transformation.



MID-PENINSULA HIGH SCHOOL

"When I first started teaching, the idea of recording a class with me lecturing was appalling and violating to me," Patterson says. "Now I do it almost every day! Not because I've turned into a miniature Richard Nixon, but because I realize that there are students who miss school, might have attention deficit or suffer from normal teenager-hood. That they are able to go back to that moment in class on their own time is invaluable."

TOP: COURTESY OF KEHILLAH JEWISH HIGH SCHOOL; BOTTOM: COURTESY OF MID-PENINSULA HIGH SCHOOL

SIERRA SCHOOL

"There were people who thought that technology would fix all problems in education," says Gay. "Most research I come across shows there's not a significant correlation between the use of technology and student achievement. But having said that, that's different than seeing a correlation between technology and learning."

The most significant long-term study looking at the impact of computers in classrooms is the Maine Learning Technology Initiative (MLTI), whereby Maine took advantage of a one-time state surplus of funds (remember those!) and provided all seventh- and eighth-graders and their teachers with laptops and professional development help, starting in the 2002-03 academic year. The results are proving a bit murky.

PUTTING TECH IN ITS PLACE

"There is little consistent statewide evidence of the impacts of the laptops on student achievement (except in the area of writing)," according to a 2011 University of Southern Maine study looking at the experiment. Even there, numbers edged up only a handful of points. While acknowledging how computers help teachers save time and adjust instruction for diverse learner needs, and upbeat over the potential for gains in math and science, the study heralds a harder to pinpoint but perhaps more interesting benefit: the "power" to instill 21st-century skills.

So, in a nutshell: Computers are no panacea, can't replace a dynamic, involved teacher and are no substitute for the one-to-one attention that children crave. However, they play a vital role in molding the workforce of tomorrow.

"We are living in a society that is increasingly technologically advanced," says Carolyn Grundt, director of the Sierra School, a Santa Clara K-12 school. "We must see that kids coming through have the necessary skills."

To that end, Sierra five years ago overhauled its program and introduced the "Beyond Technology" curriculum. Along with their more traditional studies, Sierra students spend the first half of a quarter learning a specific computer program and devote the second half to a project that integrates that program with a specific classroom unit such as studying the solar system. In high school, students work on the CEO Marketing Program, where they create their own business from the ground up and use technology to integrate marketing strategies.

"Yes, we could have done the CEO program 25 to 30 years ago," acknowledges Grundt, "but it would have been done with pencil and paper. We're in such a different age of social networking now. The kids grow up with that. Today the expectations and the stakes are higher."

Those expectations include both a familiarity with computers and a new mindset. "The reality is that we are teaching children who are coming up today differently than the children from 10 years ago," Gay says. "They need to be creative in a way never seen before. They need to be problem-solvers. They need to communicate. They need to collaborate."

As an example of enhanced collaboration, Gay points to ACS's second-grade biography unit. Typically, the young students read a biography, then dressed up like the person they read about and

COURTESY OF SIERRA SCHOOL

TROUBLE AND TRIUMPH WITH TECH

Our children today are exposed to an astonishing amount of technology. According to a 2011 Common Sense Media study of parents with children up to the age of 8, half of all their 2- to 4-year-olds and 90 percent of all 5- to 8-year-olds used a computer. Half of all children surveyed had access at home to newer mobile devices such as smart phones or iPads, with 10 percent of children under the age of 1 reported as using one of these devices.

When the Phillips Brooks School began using iPads in class, Library and Media Director Joyce Roby was amazed at how quickly the young students took to them but realized that most had already been exposed to the concept of paging through a screen or tapping on icons. It was so natural, "we might as well have asked them how to open up the refrigerator door," she comments. But it became apparent that the adults needed to teach the kids a different lesson. "The children already knew how to play games and were quick to move things around the screen," Roby says. "We need to teach them to slow down and not keep their brain out of the equation."


THE PHILLIPS BROOKS SCHOOL

Because computers are so pervasive, it's easy to believe that kids instantly know not only how to use them but also what to do with them. "There's this idea of the digital native," explains Sam Patterson, dean of student advising at Kehillah Jewish High School. "But kids have a lot of wrong ideas about technology. Adults need to model it for them."

For example, Patterson, who teaches English, has his students create blogs. This has led to interesting conversations about digital citizenship. "I've noticed that the first thing bloggers want to do is to comment on other people's mistakes," Patterson says. "No, no, no! What you should do is acknowledge what was said and interact, not correct them. This is news to the kids."

Likewise, at Notre Dame San Jose, Instructional Technology Coordinator Brooke Ahrens finds that "there's this assumption we make as adults that because of what access kids have to technology that they have all the necessary skill sets." Not true, she says, particularly when it comes to the idea of what constitutes proper behavior.

"There's this level of expectation among students for 24/7 communication. We have to tell students that just because you sent a teacher an email at 3 a.m., don't expect it to be answered right away. There's a different understanding of what it means generationally and technologically."

For parents and educators, fears of cyber-bullying, not to mention online cheating, are never too distant, particularly as kids increasingly use computers in school. "My son was given his own laptop in sixth grade," says one mother of a private school student. "Do I know what he's doing on it? To be honest, no."

As computers and mobile devices take on increasingly important roles in the classroom, schools have become more proactive. Most middle and high schools have installed anti-cheating systems, and even at elementary schools it's become common to adopt tough permissible use policies and explain in great detail to students what constitutes bad online behavior.

The stakes get higher at each grade level, as kids adopt more of an online presence." No school wants to be put in the position of being the Facebook police, but it's incumbent on us to be careful," remarks Patterson.

Saint Andrew's Episcopal School provides all middle schoolers with laptops that they can take home, while younger students have access to laptops and iPads at school. "We monitor them," says Adrian Bica, director of technology. "It's not fun, but we do it."

Increasingly Saint Andrew's views its one-to-one laptop program as a logical extension of its emphasis on character building. There have been surprisingly few problems with kids treating systems poorly, according to Bica, who adds, "Our policy is that it's not a technology problem, it's a discipline problem."

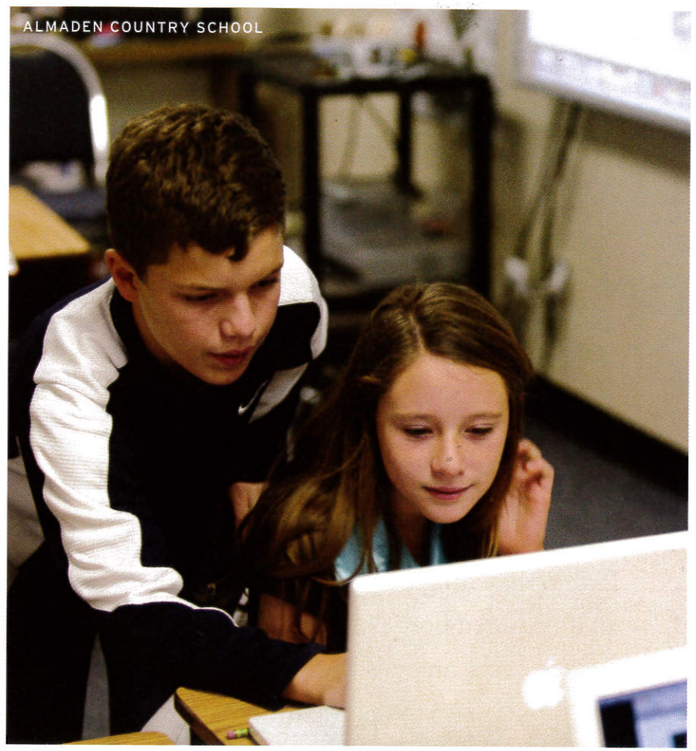
made a presentation. This year, second-graders worked in groups of three and were supplied with an iPad. One student played the interviewer, one was the video recorder and the third was the interviewee who was the biography subject.

LOTS OF WAYS TO LEARN

Saint Andrew's, which has had a one-to-one laptop program for a decade and is in the midst of extensive iPad testing, requires its students to attend weekly technology classes. "We live in Silicon Valley," says Bica. "Programming is a 21st-century literacy skill, so we are pushing hard with programming."

But even with its significant high-tech investment, technology is just one tool of many used at Saint Andrew's, Bica says, mentioning one recent English class project. He estimates that probably a third of the students went the digital route, using their laptops to create projects involving movies and animation. "But there were students there with cardboard boxes and construction paper. That's OK, too. For us, thinking in the box is being on the computer. Thinking outside the box is something not done on the computer," Bica quips.

COURTESY OF THE PHILLIPS BROOKS SCHOOL


ALMADEN COUNTRY SCHOOL

It's pretty much a given at many South Bay private schools that computers and their smaller, more portable offshoots will be used for research, email, administration, presentations (perhaps spelling the end of cursive writing instruction as we know it) and increasingly as digital replacements for textbooks, but those are just the tip of the iceberg.

Pervasive technology is turning the whole concept of homework on its ear (see sidebar: "Flipped Out"), and even during school hours kids are increasingly using computers for online instruction, particularly in language and math classes and collaborative work with their classmates. And computers in the classroom don't just mean laptops. Other devices employed by schools interviewed for this story range from interactive white boards to digital projectors, document cameras and smartpens.

"If you're just using a computer as a replacement for a book, you're not getting enough out of it," says Anne Marie Schar, director of technology at Mid-Peninsula High School. This past fall, the Menlo Park school began requiring students to bring to classes their own laptop or netbook computer. This policy is known as BYOT or BYOD for bring your own technology or device. Schools such as Mid-Peninsula, Notre Dame San Jose and Kehillah Jewish High School that opt for this policy typically do so because they do not wish to be responsible for the upkeep of devices that age so quickly—nor do they want to lock their students into a single platform.


NOTRE DAME HIGH SCHOOL

TOP: COURTESY OF ALMADEN COUNTRY SCHOOL; BOTTOM: COURTESY OF NOTRE DAME HIGH SCHOOL

"The right technology and the right motivation can help deliver a lot more real content," Schar remarks. She points to the difference between a teacher trying to talk about President John F. Kennedy's oratory skills and being able to pull up on a laptop a clip of him delivering a speech. "There's real power to that," Schar says. "It provides more engagement; it brings the real world into the classroom."

FROM LABS TO LAPTOPS

The classroom experience is key. Joyce Roby, librarian and media director at the Phillips Brooks School, recalls the days when the stand-alone computer lab, filled with large hulking desktop systems, was king. In fact, she says, when students were in computer lab, their main teachers rarely came along.

"The whole conceptual idea of getting out of the computer lab into the classroom was a hold-the-breath experiment, but it's really working out," comments Roby. One reason, she believes, is that as teachers become increasingly more comfortable with high tech, they are the ones pushing—rather than being pushed—for solutions that really do work for their classrooms.

Many Silicon Valley private schools still maintain computer labs, particularly those that offer program- *(continued on pg 104)*

200 DINING HOT SPOTS

Sam's Chowder House, 4210 North Cabrillo Highway, Half Moon Bay. 650/712-0245. Authentic New England-style dishes spotlighted, with a daily selection of fresh fish. $$

Scott's Seafood. 185 Park Ave., San Jose, CA 408/971-1700. This sixth-floor San Jose classic restaurant recently reopened with a new rooftop patio and an updated menu features cutting-edge fish preparations as well as time-honored standards like dry aged steaks, chicken and pasta. $$

Steamer's, The Grillhouse (Old Town), 31 University Ave., Los Gatos. 408/395-CRAB. A favorite since 1979, Steamer's features steaks, chops, seafood and Mediterranean-inspired dishes. $$

SINGAPOREAN

Shiok! Singapore Kitchen, 1137 Chestnut St., Menlo Park. 650/838-9448. An exciting fusion of Malay, Chinese and Indian cuisine. $

Straits Cafe, 333 Santana Row, Suite 1110, San Jose. 408/246-6320. Serving up fine Singaporean cuisine, this sleek and sophisticated spot is well-suited to its posh Santana Row locale. $$$

SOUTHEAST ASIAN

Ginger Café, Sunnyvale, 408/736-2828. Gilroy, 408/847-2625. Comfortable, family-run restaurants feature a fusion of Chinese favorites with Southeast Asian influences. $

Mint Leaf Cuisine, 14420 Big Basin Way, Saratoga. 408/872-3763. Eatery features fusion cuisine including soft-shell crabs with peanut sauce and curry scallops. $$

SPANISH

Cascal, 400 Castro St., Mountain View. 650/940-9500. Spanning the globe with spectacular dishes from Spain and South America, Cascal serves up a menu of "spirited Latin cuisine." With over 25 tapas—small plates and tastes—divided into "old world" and "new world" choices, there's something for everyone. Try the classic Spanish chorizo in rioja wine or minted lamb meatballs in a saffron and almond sauce. For a full dinner, start with one of several ceviches and move on to an exquisite, traditional paella (including one for vegetarians). The casually elegant interior, with its bright, bold colors was created by renowned designer/architect Chuck Thompson. $$

Joya, 339 University Ave., Palo Alto. 650/853-9800. The hip modern décor mixes well with the contemporary Spanish and Latin tapas and the tasty variety of new age cocktails. $$$

THAI

Amarin, 174-176 Castro St., Mountain View. 650/988-9323. Also in San Jose and Santa Clara. Fresh, contemporary Thai menu with wonderful traditional accents and vegetarian dishes. $

Bangkok Cuisine, 407 Lytton Ave., Palo Alto. 650/322-6533. Charming ambience with lovely patio dining. The curries are especially tasty. $

Siam Orchid, 496 Hamilton Ave., Palo Alto. 650/325-1994. A menu that mixes traditional Thai dishes with more modern cuisine, all infused with quality organic ingredients. $$

VIETNAMESE

Tamarine, 546 University Ave., Palo Alto. 650/325-8500. Elegantly presented dishes, such as crab wontons in a consommé of lime, coriander, lemongrass and coconut milk.

Xanh,110 Castro St., Mountain View 650/964-1888. Trendy, upscale restaurant featuring Vietnamesecuisine that pleases both the eye and palate with creative combinations. $-$$ ■

T IS FOR TECH

(continued from pg 63)

ming classes, but the question is for how long. Phillips Brooks merged library and technology classes and integrated computers into the classroom. It now has a one-to-one laptop program for grades 3-5 and is moving to iPads in the younger grades. As part of a seamless integration, Roby and Giatonde point to iPad apps for learning letters of the alphabet or making patterns out of shapes, which can be included in a daily class routine.

Likewise, at Mid-Peninsula, which graduated from a computer lab to laptop carts (stations housing multiple laptops that can be wheeled around to whichever classroom needs them) to BYOD, Schar has seen a real-life benefit to getting out of the lab. The school uses Kurzweil Educational Systems, computerized assistive readers originally designed for the blind or partially sighted that increasingly are being used by those with dyslexia.

"Kurzweil is now in the cloud," says Schar, referring to when computing resources are stored out on the Internet rather than housed on your own piece of hardware. "Now kids have access in the classroom. They don't have to leave the room and have everyone know that they're going to the computer lab to use the Kurzweil. It definitely makes them feel more integrated in the community."

At Kehillah Jewish High School in Palo Alto, Dean of Student Advising Sam Patterson says he takes a pretty permissive view of technology, including being bullish on the one thing schools up to very recently traditionally banned in classrooms: smartphones. He also teaches English, including a class on Homer's "The Odyssey."

Meshing the very old with the very new is exciting, Patterson says, but requires deliberation. "You need thoughtful discussions of how technology works with your pedagogical goals," he comments. "Technology is simplifying what is already being done. In a tech-enabled classroom probably 90 percent of the pedagogy will stay the same. Most of it will be what we already do, but better."

School officials emphasize that teachers can make technology work, but the reverse is rarely, if ever, true. "You can have all the technology in the world, but if you have a bad teacher it's pretty much useless," says Schar. "It's not the technology. I can't emphasize that enough. It comes down to teaching." ■

THE ACCIDENTAL TEACHER:

(continued from pg 80)

that they weren't happy before, but this is different," she says. "It's like they're internally motivated, and they're driving their own car. It's a completely different approach, but it completely works."

Khan is also aware of criticisms directed at Khan Academy—particularly the notion that it devalues teachers and threatens to replace them. But, he thinks that's based on a misconception.

"If I had to think of what we'd be a threat to, it would be textbooks," he says. "The role of being a coach and a mentor, and customizing the material for different students—that's of much higher value. It's much harder to do that than going through the same lecture, at a set pace, day in and day out."

> HER SCORES STARTED IMPROVING, WHICH DIDN'T ESCAPE THE ATTENTION OF THE REST OF THE FAMILY.

Khan addresses many of these points, and other questions about the potential impact of Khan Academy on education, in his recently released book, "The One World Schoolhouse."

In addition to his new roles as educator, nonprofit founder and author, Sal has also become somewhat of a media star. He was recently profiled on "60 Minutes." He has also been listed in Fortune's annual 40 under 40, in Fast Company's list of the 100 Most Creative People in Business and in Time as one of the 100 most influential people in the world, among other coverage.

As for Khan's other ambitions? Well, he wouldn't mind meeting the other Salman Khan, the Bollywood superstar who shares his name.

"In full disclosure, I've actually seen and enjoyed many of his movies," he says, "and I wouldn't be surprised if some of the Khan Academy traffic was due to searches for the other guy." ■