ShiFtiNg Ground

Students have already embraced technology—now schools can empower them to use it for learning.

Chris Lehmann

Stand outside any U.S. high school at dismissal time and face the doors. As you watch the students file out, you will see them pull out all sorts of devices—most of them banned in school—and get on with the way they live their lives, often viewing school as nothing more than a necessary evil in an otherwise modern life. For most students, the tools and talents they employ outside of school have little place in their academic classes.

For many students, the world of textbooks and lectures and worksheets cannot hold a candle to Facebook, text messages, and YouTube. Technology-assisted social networking is part of their lives, but because schools have not embraced technological change in meaningful ways, most students do not consider how the modern tools can transform the way they think of themselves as students and scholars.

Moreover—and perhaps most damning—by blocking and banning many of the tools and Web sites that form the cornerstone of teenagers' experiences, educators deny themselves access to the conversations that students are having about how to use these tools intelligently, ethically, and well. And given the overwhelming flow of information that students can access using such tools, it is essential that educators become part of those conversations.

Time for Change

For quite some time, the promise of 21st century tools in schools has been a focus of the education community. In too many schools, however, there haven't been major changes in the way in which students learn. Postman (1992) wrote that certain technologies are transformative, not additive, and used the Guttenberg printing press as his example: when the printing press was invented, the outcome wasn't Europe plus some books, but a whole new Europe. Despite investing billions of dollars in hardware, wiring, and professional development, too many schools are the same as ever, only with some computers, when they should be whole new schools where kids are accomplishing things that no one ever dreamed possible.

But change is coming, and it is apparent in the success of many virtual high schools. Christensen (2008) makes the claim that by 2019, half of all high school classes will be taught either fully online or in a "blended" fashion, with between 30% and 80% of the interaction happening online. There's no question that the United States is becoming an increasingly wired society—and as schools increase their bandwidth, there is no

Science Leadership Academy

PHILADELPHIA, PA

Grades: 9–12

Enrollment: 493

Community: Urban

Demographic: 49% Black, 36% White, 7% Asian, 7% Hispanic, 10% other

Administrative team: 1 principal, 1 school secretary

Faculty: 26

technological reason why classes can't be taught online or become blended, but what will those classes look like? How will they be taught? Who will teach them? Everyone—parents, teachers, administrators, and students—must be willing to rethink many of their basic assumptions about what classes—and schools—can be.

Empowerment

Those of us who work in education talk a lot about student engagement, but I don't think that goes far enough. Engagement is certainly better than boredom, but schools should set the bar for themselves is much higher. What schools should strive for is student empowerment.

Right now, many of the technological innovations in education are more engaging than empowering for students. Districts have spent thousands of dollars installing interactive whiteboards—which are a more powerful, more engaging chalkboard. And yes, they are a tool with some very useful functions, and yes, we have them at the Science Leadership Academy in Philadelphia, where I am principal. But let me be clear: interactive whiteboards only enable a teacher-centric style of teaching to be more engaging than it would have been with a traditional chalkboard. Much of the prepackaged educational gaming similarly makes the same mistake. Yes, it is engaging, and yes, students will learn better, but schools should not be satisfied with reaching the student engagement plateau because to do so is to miss the true power of what those tools can achieve. True empowerment comes when students take the skills they have learned in classrooms and apply them to ends of their own creation.

Schools can and must be empowering—what held down the progressive school movements of the past 100 years was not that the ideas were wrong, but rather that it often just took too long to create the authentic examples of learning. The tools to achieve John Dewey's dream of what schools can be are in place, but schools must embrace the opportunity to harness the 21st century tools and marry them to a more progressive pedagogy to put the responsibility—and the joy—of learning and creation into the students' hands.

If the only thing that schools do with Internet and computer technologies is create a system that has more-efficient ways to deliver content and has predetermined objectives, all they will have done is repeat the mistakes of the 1950s, when the common thought was that TV would revolutionize schools by delivering the best content in the world. Instead, we as a society need to understand what schools can be if they become transparent through the use of 21st century tools. When the classroom, the teacher at the front of the room, and the school library are not the be-all and end-all of gaining information, schools can become truly inquiry driven.

Real-World Learning

The single greatest challenge schools face is helping students make sense of the world today. Schools have gone from information scarcity to information overload. This is why classes must be inquiry driven. Merely providing content is not enough, nor is it enough to simply present students with a problem to solve. Schools must create ways for students to come together as a community to ask powerful questions and dare them to bring all of their talents to bear on real-world problems. With technology tools at their disposal, students can research, collaborate, create, present, and network in meaningful ways. Those activities blend and blur and cross boundaries, but they all stem from an inquiry-driven process that allows students to build knowledge with the help of a skillful teacher.

After students have created questions, they must conduct research to find answers. There is nothing wrong with the traditional methods of research—at the Science Leadership Academy, we take students to the Free Library of Philadelphia all the time, and we have built a school library that supports our curriculum—but research means much more than that. When our students learned that the deputy mayor of Dallas, TX, was working with a local rapper to try to convince young men to pull their pants

up, they did more than read articles about it, they contacted the deputy mayor with e-mail and phone calls, eventually leading to an interview using Skype software to question him about the initiative. When students wanted to know about the environmental impact of planned construction near the school, they got water and soil samples and analyzed them with scientific probes and their laptops, investigated their results, and eventually worked with the city government. Their findings created an investigation that halted construction.

And the tools that are available now can allow students to collaborate in new and powerful ways. Collaboration does not have to be limited to time spent in class or be bound by geography. Students can use instant messaging; text messaging; course management software; and collaborative writing tools, such as Google Docs, to work together at all hours of the day. The idea of community has changed dramatically in the past 10 years, and that idea should be reflected in classrooms.

During the 2008 election, students from the Science Leadership Academy worked with a school in Texas to capture the sights and stories of Election Day. Students from both schools went out into their communities and used their cell phones and laptops to record interviews—along with photos—with voters as they waited in line, and then both groups came together virtually to share their experiences, making their understanding of the day much more powerful and much deeper.

Once students have worked together, the question must become, What can they create? Students have access to powerful, easy-to-use production tools to create authentic content that can be shared. Students can make films and podcasts, presentations and poetry, and they can publish them and share them with the world. For example, when Michael Wesch and his students at Kansas State University created the viral video "A Vision of Students Today" (www.youtube.com/watch?v=dGCJ46vyR9o) in his digital ethnography class, they could not have known that it would generate more than 3,000,000 views and affect the way thousands of people thought about school and students. Whether they are making documentary films, writing blog entries, or collaborating on a wiki project, students can create original work and share it with virtually everyone.

Finally—and perhaps most powerfully—students can build a network that reaches far beyond their immediate communities. Students at Science Leadership Academy use Twitter to connect with a wider world, often staying in touch with educators who have come to visit our school. When they take trips to other countries, the trip itself becomes the physical manifestation of virtual visits that have been taken for months. Students can find mentors not only among the adults around them but also among adults around the world.

Transformation

Social networking has changed the landscape of society. High school reunions are being planned on Facebook, so this is no longer simply a "kid" thing. But it is not enough for educators to simply be aware of social networking; they have an obligation to teach students the difference between social networking and academic networking. Students can be known for more than just photos they took on their latest vacations; they can be known as serious evolving scholars. Educators can help them understand how to paint a digital portrait of themselves online that includes the work they do in school and help them network, both locally and globally, to enrich themselves as students.

It is a bewildering time to be in school today—whether one is a teacher, a student, or an administrator. The ground is shifting under *everyone's* feet as schools hustle to catch up to the changes in society. But those changes, although difficult, have brought school communities to a moment in time when they can rethink what they can be. Schools can and must be transformative—when they encourage kids to harness the new tools at their disposal to create real work of meaning, students can be authentic voices in the world. In the end, it is time to stop thinking of school as preparation for real life and instead show students that the time they spend in school can be a vital and enriching part of their very real and very important lives. PL

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REFERENCES

- Christensen, C. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York: McGraw-Hill.
- Postman, N. (1992). *Technopoly: The surrender of culture to technology*. New York: Knopf.

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