Educating Students for Their Futures
Three Trends for Schools in the Conceptual Age
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Independent School , v74 n1 Fall 2014

A few years ago, a YouTube video titled "Did You Know?" went viral. According to that video, "We are currently preparing students for jobs that don't yet exist... using technologies that haven't been invented in order to solve problems we don't even know are problems yet." Given such uncertainty, how can schools best prepare students not only for work but also for college, citizenship, and life? A look at a few trends suggests, at least directionally, how independent schools might evolve over the coming decades to continue to educate students well for their futures.

The Workplaces and School Spaces of Tomorrow

From the earliest grammar schools of the 18th century to the mid-19th-century academies and common schools, from the compulsory public education system created in the late 1800s and early 1900s to today's virtual schools and massive open online courses (MOOCs), education in this country has at least in part had a pre-professional emphasis. Just as schools have been designed, among other purposes, to prepare students for work, the dominant work paradigm of each era has influenced the design of schools. So, for example, the early grammar and common schools followed an agricultural calendar, and our public school system reflects the values of the Industrial Revolution from which it was spawned. Cathy Davidson encapsulates this in her book Now You See It: How the Brain Science of Attention Will Transform the Way We Live, Work, and Learn (2011):
"Mandatory, compulsory public schooling developed... as part of America's process of industrialization. Public education was seen as the most efficient way to train potential workers for labor in the newly urbanized factories. Teaching them control, socializing them for the mechanized, routinized labor of the factory was all part of the educational imperative of the day.... School was thought to be the right training ground for discipline and uniformity. Kids started attending schools at the same age, passed through a carefully graduated system, and were tested systematically on a standardized curriculum, with subjects that were taught in time blocks throughout the day. In ways large and small, the process mimicked the forms of specialized labor on the assembly line, as well as the divisions of labor in the factory itself."
Today's open-concept office spaces similarly mirror the features of our networked, less hierarchical culture. A couple of years ago, I took my senior staff on a tour of Google's New York office. It was eye-opening for all of us to see the type of environment in which many of our graduates now work. Google's New York office covers an entire city block and houses about 3,000 people, so employees use Razor scooters to travel across floors and vertical ladder chutes to travel between floors. Most people work at open workstations that can be easily reconfigured — the better to encourage "casual collisions" and to provide the flexibility needed for a fast-growing company that frequently creates new teams and reassigns people to new jobs. Many other aspects of the space are also designed to enhance collaboration and innovation, including small meeting rooms decorated like New York City

studio apartments, food venues within 150 feet of every workstation, and recreational/play areas. And, of course, Google's computer infrastructure allows employees to seamlessly work from, or collaborate with people from, anywhere in the building or the world.
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I don't expect schools — either private or public — to lose all the vestiges of earlier eras over the next two decades. After all, most schools still adhere to an agricultural calendar and the one-size-fits-all approach to scheduling and promotion introduced during the Industrial Age. Nevertheless, I'm encouraged by developments such as the creation of maker spaces, fab labs, design studios, and other experiential spaces, which encourage creativity and collaboration. Most important, those developments challenge our traditional educational paradigms and resemble much more the settings in which current and future students will work. I hope and expect that the trend to create more flexible, experiential space accelerates, particularly at independent schools that have the freedom and resources to build and refine such new settings.

At The Lawrenceville School (New Jersey), we recently renovated a large classroom building in the middle of campus that was constructed in the mid-1930s to accommodate our then-new Harkness approach to teaching and learning.1 The renovated building, which is home to our foreign language and religion and philosophy departments, is a good example of the mixed-use space that is becoming increasingly common. While we restored the top two floors to their original beauty, we also installed new technology in every classroom to facilitate communication around the globe, and developed modular Harkness tables to foster not only whole-class discussions but also smaller conversations and group projects. We then excavated the ground level and created a high-tech information commons. The space was designed by Bohlin Cywinski Jackson, the architectural firm that designs all the Apple stores globally, and like Google's New York office, it is intentionally open and flexible to encourage the kind of serendipitous encounters that often inspire creativity and lead to innovation.

While it might seem anathema for independent schools, all of which value close student-faculty interactions and many of which have extensive physical plants, to experiment with online and blended learning, they are beginning to do just that. The Online School for Girls (and now Boys) and Global Online Academy are prime examples of effective virtual partnerships. Other independent school consortia, such as the Eight Schools Association, have begun to develop similar collaborative ventures. While I don't expect that all independent schools will develop formal online partnerships, I do expect that within 20 years, every independent school student will take some online or blended courses during his or her high school career and perhaps earlier as well. If we are to prepare our students for the Digital Era and for the types of experiences that they will have in college and beyond, giving students exposure to high-quality virtual learning makes good sense.

The Technological Imperative: Lifelong Learners, Creators, and Empathizers

School buildings and virtual spaces are just the physical manifestation of societal trends. Even more significant are the changes in educational approach that the Internet, social media, and other technological innovations enable.

In their 2009 book, Rethinking Education in the Age of Technology, Allan Collins and Richard Halverson describe three eras of education: the apprenticeship era, which predominated until the early 19th century; the universal-schooling era, which began with Horace Mann's founding of the first normal school in 1837 and evolved with society until it became a stable, fairly standard system; and the lifelong learning era, which Collins and Halverson believe we're now entering.

The latter era is one in which learning can take place anytime, anywhere, and at any pace and in

which learning is directed by the learner based on his or her interests. In such a system, learning how to learn and how to access, evaluate, and synthesize the vast information that is literally at our fingertips are essential skills. Collins and Halverson cite the rise and explosive growth of home schooling, workplace learning, distance education, adult education, and learning centers, among other developments, as evidence of this new era. The more recent proliferation of MOOCs and popularity of do-it-yourself YouTube videos and other online learning resources, such as Khan Academy, also underscore this trend.

Collins and Halverson describe three learning imperatives that arise out of the new web 2.0 technologies: customization, interaction, and learner control:
"Customization refers to providing people with the knowledge they want when they want it and supporting and guiding people individually as they learn. Interaction refers to the ability of computers to give learners immediate feedback and to engage learners actively in accomplishing realistic tasks. Learner control refers to putting learners in charge of their own learning whenever possible, so that they feel ownership and can direct their learning wherever their interests take them."

In many ways, independent schools are well positioned to capitalize on these imperatives. With our relatively small class sizes, freedom from state standards, close student-faculty mentoring relationships, and control over what we teach, we can effectively encourage students to explore topics of interest in depth and to work on authentic projects that address real-world issues. Given the ubiquity of information technology, it's inevitable and appropriate that technology becomes an increasingly prominent feature in our schools and classrooms over the coming years and decades.

It's essential that schools are intentional in their adoption of new technologies, so that information technology serves our educational aims and is consistent with our educational philosophies. Teaching and learning at Lawrenceville, for instance, have always been about relationships, and the Harkness sensibility — learning in an engaged, collaborative manner, reducing the traditional barriers between teachers and students, encouraging students to take responsibility for their own and others' learning, etc. — is embedded in our culture. Faculty members have begun to combine information technology with Harkness teaching in ways that stretch the possibilities of both. For example, teachers are using tablets around the table to access and annotate web documents and manipulate shared data. They are "flipping" their classrooms so more class time can be used for guided problem solving, and they're creating blogs that extend Harkness discussions beyond the confines of the classroom and posting questions to stimulate the next day's discussion. In part, because our students are so at ease with technology, the web is expanding Harkness conversations and making them more inclusive. The student who begins the term reluctant to speak in class sometimes finds a comfort level online first.

Like Collins and Halverson, writer Daniel Pink recognizes that the accessibility of information and interconnectivity of the world will have a significant impact on both work and schooling over the coming decades. In his book A Whole New Mind (2006), Pink argues that the 18th century was the Agricultural Age, the 19th century the Industrial Age, and the 20th century the Information Age. We are in transition now, but according to Pink, the 21st century will be the Conceptual Age, in which creators and empathizers play a central role. Pink describes the Conceptual Age as "high concept and high touch," because what will distinguish people, businesses, and even schools in our relatively affluent, data-saturated, hyper-connected, global world are people's ability to create knowledge from information, add meaning to products and services, and relate to others, particularly those different from oneself. To Pink, "empathy is a stunning act of imaginative derring-do, the ultimate virtual reality — climbing into another's mind to experience the world from that person's perspective."

Again, independent schools with our strong cultures and relatively diverse communities are promising places to cultivate empathy by helping students to develop both a deep understanding of

and a genuine care and concern for people from different backgrounds. Because of housing and neighborhood segregation, nearly half of the public schools in this country are extremely segregated; more than 90 percent of their students are either white or students of color. Meanwhile, because they can draw from much larger catchment areas, only about 40 percent of day schools and less than 10 percent of boarding schools are as segregated. Going forward, it will be beholden on us to take advantage of our diversity by ensuring that we take the time to create opportunities for students and faculty of all backgrounds to get to know each other well so our students can experience what it means to be part of a truly multicultural community. This is work we can do across the entire K-12 spectrum.

Citizens of the World and Global Stewards

Modeling such a multicultural community is particularly important today given the increasingly cosmopolitan, global world in which we live. In addition to preparing students for work and higher education, schools have also traditionally prepared students for citizenship by inculcating common, democratic values. Until the Industrial Revolution, more than 90 percent of Americans lived on farms, so, not surprisingly, education was a local affair intended to produce informed citizens for our new democracy. With the advent of the Industrial Revolution, many farmers and immigrants poured into the cities, and relied on schools to help indoctrinate them and their families to the workings and values of the city. Today, we live in an interconnected, global world, so our challenge is to literally prepare students to be "citizens of the world."

What values are required of global citizens? In his book Cosmopolitanism: Ethics in a World of Strangers (2006), Kwame Anthony Appiah encourages us "to find the proper balance between celebrating what we have in common by virtue of our shared humanity while respecting and learning from the obvious difference between us." Similarly, the Global Liberal Arts Alliance, a consortium of 25 colleges and universities committed to providing an education adequate for the global challenges we will face, advocates for "an education that compels students, and those who teach them, to come to know not just that which is familiar and already ‘one's own,' but to seek understanding of others and to welcome the opportunity to learn what those who are different from them have discovered about our common humanity and our common habituation of this planet."

Among the dispositions for global engagement that the alliance articulates are respect, vulnerability, hospitality, compassion, agency, agility, fairness, service, and leadership. I suspect that many of those dispositions can be found in the mission statements and core values of our schools. The aims of a Lawrenceville education, for example, are "responsible leadership, personal fulfillment, and enthusiastic participation in the world," and the dispositions we seek for students to develop include: "high standards of character and scholarship, a passion for learning, an appreciation for diversity, a global perspective, and strong commitments to personal, community and environmental responsibility." The challenge for all of us is to live up to our lofty missions... because the future of our planet and society depends on it.

A History of Adaptation

At first glance, the trends in the workplace, information technology, and globalization might seem threatening to or incompatible with the "high-touch" approach to education that most independent schools espouse. In fact, however, many of the trends play to independent schools' current strengths. Over time, independent schools have shown a striking adaptability, which I suspect is what has enabled many of them to survive for decades and even centuries. More than 60 years ago, one of my Lawrenceville predecessors, Allan Heely, wrote a book titled Why the Private School? (1951). Commenting on the evolution of private schools in this country, Heely wrote, "...the absence of continuity that these metamorphoses suggest is far less significant than the extraordinary adaptability to changing opportunities that the private school has throughout its history exhibited.

Being free to serve as it thought best, it has repeatedly and flexibly responded to new conditions and entered new fields of usefulness."

Such adaptability will serve us well over the coming decades as we continue to modify our schools to ensure that we prepare our students well for their futures.

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Note

1. The Harkness Method — student-led, teacher-facilitated discussions — was developed at Phillips Exeter Academy (New Hampshire) in 1930 with the encouragement and financial support of philanthropist Edward Harkness. Soon after, it spread to a number of other independent schools, including Lawrenceville.

Resources

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