WHAT SHOULD 21ST CENTURY SCHOOLS TEACH?
Last spring we had an exceptional assembly speaker: Alan Eustace, a Menlo parent who, along with serving as Google’s Senior Vice President of Knowledge, holds the world record for the highest altitude free-fall jump. Alan described the years of preparation for his leap from the stratosphere, the many frustrations he and his team faced and overcame, and the intense learning that took place before the successful leap. Nothing in his previous education and work experience had led specifically to the adventure of jumping from more than 25 miles above the earth with nothing but a life support system and a parachute. He mused, “Life is preparing you for something, but you don’t know what it is.”

The same is true for education. As educators, our job is to nurture and prepare our students. As I’ve come to know Menlo over the past two years, I’ve seen how well we do this—our alumni continually tell us that Menlo prepared them for college and for life. And yet our world is changing rapidly and exponentially, making it hard to know exactly what to prepare our students for. What, then, do we teach?

Drivers of Change: Why Education Must Evolve

Clearly, new technologies have had an immense impact on our world. The Age of the Internet has brought about an information abundance—some might say overabundance—and what once could be stored only in a full library, available to the designated scholarly few, today can be found in a phone. Knowledge is now immediately accessible, mobile, and (somewhat) more democratic. As Terry Heick, the director of TeachThought, says, it’s “humanity-in-your-pocket.”

There’s so much information that our brains must actually engage with the world differently. How will we react, prioritize, sort, interpret, and use all this “stuff”? Cognition itself may very well change. “Big Data,” while demanding an incredible amount of computational power, helps us better interpret, interact with, and manipulate information. But it also makes reasoned judgment even more important,
and raises serious questions of privacy and the relationship between institutions, governments, and individuals.

We’re also networked to most of the world, able to make connections we never could have made 100 or even 20 years ago. We’re as likely to build a business with a partner in Hong Kong as with one in New York, as likely to study cancer treatments with someone in Peru as with someone in Syria as with someone in our college dorm. In fact, the college dorm itself is more nationally, racially, linguistically, ethnically, and economically diverse than ever before.

We’re living longer and changing careers more frequently. Even our planet is changing around us. Climate change is still unfolding, and its impact will necessarily affect how we allocate resources, how we harness energy, how we collaborate with other countries, and how we think about humanity in relation to our physical world.

I don’t mean to cause alarm: every generation has faced uncertainty. Yet with today’s rate of change, we have to be nimble.

An Unknown Destination

We may not know what the world will be like for our students. But what we do know is that our students will need to be more than learned—they’ll need to be learners. They must be “future proof”: open to a constantly changing world and able to adapt, to learn new skills that don’t even exist right now, and to continually reinvent themselves.

Can education future proof our students? I believe it can. But how we educate needs to evolve. And it needs to evolve more quickly than it has in the past.

A Quick Look Back

For centuries, an agrarian economy meant that education took place primarily in the form of apprenticeships: mentoring, personalized tasks, and real-life results. The rise of grammar schools began to codify what was to be learned. Then the transition to an industrial economy brought standardization not just to factories but also to education, an appropriate change at that juncture.

At this point we began to see the kinds of schools we might recognize today. Subject areas are split into discrete courses, each taught for a specific amount of time. In a one-size-fits-all approach, expectations and assessments are standard across learners. Success is measured by seat time: if students can stay in their chairs for 180 days, we move them all to the next level at the same time. Teachers are the experts who lecture in front of class, the better to impart content knowledge efficiently to an ever-growing population. Schools emphasize “hard” skills: disciplinary knowledge that can be easily defined and measured, such as the ability to solve a quadratic equation, or write grammatically correct sentences, or label the parts of a cell. It’s the “three Rs”: reading, writing, and arithmetic.

And for many schools across the country, not much has changed.

But of course the world has changed, and it will continue to do so. How and what we teach our students must evolve—and we have to start now.

Preparing for the Jump: What We Need to Teach

The 21st century educational approach emerges at the intersection of three areas: content knowledge, skills, and mindsets.

Content Knowledge: What We Know

We’re quite good at teaching content knowledge, and although we may not be able to anticipate the hard skills, the “three Rs,” are still critical. But they need to align more closely with how we actually use knowledge in the real world. You can’t find a way to alleviate climate change through an understanding of atmospheric science alone. Such an endeavor demands interweaving chemistry, international policy, computer programming and modeling, agriculture, energy storage, and economics.

Our society can’t afford to separate knowledge into discrete disciplines anymore. Instead, our educational approach must be interdisciplinary—that’s how we’ll help our students understand the issues and give them the tools to tackle the problems they care about. Courses will need to approach big questions or topics through the lens of multiple disciplines. One course under consideration at Menlo would look at energy from scientific, environmental, political, and literary perspectives. Our students themselves will need to become “transdisciplinary”—able to move between areas of knowledge to tackle whatever conundrum they’re facing. Similarly, journalist Fareed Zakaria, in In Defense of a Liberal Education, writes about academic “cross-training”: by studying science and humanities, students learn different ways of thinking.

Skills: The Super Seven

Content and hard skills remain important. But now that we can pull up any fact on a phone, we have more time to apply what we know. The emphasis in education is shifting towards “soft” or noncognitive skills. In fact, soft skills are the ones that will future proof our students.

If you read through the research by experts in education, neuroscience, and psychology, you’ll find multiple lists of skills considered critical for the 21st century. The one that resonates most for me was outlined by Pat Bassett, the former head of the National Association of Independent Schools (NAIS), in his 2012 TEDx talk outlining the “six Cs.”

Building on his keen insights, I’ve added one more to the list from my own experience (although it doesn’t neatly follow Pat’s “C” pattern).

In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.—Eric Hoffer, philosopher

Content Knowledge

Skills

Mindsets
Creativity. Creativity is a way of thinking, improvising, and innovating that leads to something original, be that a painting or a new mathematical theorem. And you could say that both a painting and a theorem are a form of self-expression. To be creative, you must be able to shift back and forth between divergent and convergent thinking.

Collaboration. Our global economy, new organizational structures, and complex problems that can only be solved by group effort mean that teamwork is critical. Let’s teach our students to build effective partnerships, resolve conflicts, understand group responsibility, shift between roles in a group, and accept feedback.

Critical Thinking. Really, critical thinking is about knowing what questions to ask, how to evaluate the answers, and how to problem solve. With so much information at our fingertips, we have to dig suddenly open up. Of course, to do this, you have to be comfortable with some ambiguity. Not surprisingly, these seven skills closely match those that CEOs most look for in employees—more so than content knowledge.

Character. This is what we think of as the foundation of who we are as people. We want our students to rely on good values—you could even say to be virtuous—as they interact with the world.

Cosmopolitanism, or Cross-Cultural Competency. I don’t particularly love Bassett’s term “cosmopolitanism,” but his idea of cross-cultural competency is on target, and it’s dependent on having an openness to and curiosity about other people, cultures, and perspectives. Let’s help our students develop an understanding of their own responsibility to the world, so that when they find themselves working with a diverse group of people, they’re solving problems not just for their own (or their community’s or their country’s) self-interest, but for the common good.

Adaptability, or Intellectual Flexibility. If you don’t know what the future holds, you must be able to unlearn and relearn, to reinvent yourself, and to improvise as challenges arise or new pathways suddenly open up. Of course, to do this, you have to be comfortable with some ambiguity.

Communication. So many of our world’s problems are caused by miscommunication. We have to articulate our ideas and opinions with clarity, and be fluent in writing, speaking, and digital media. And it’s not enough to know how to convince others—we also have to know how to listen and respond effectively so that we can find a path forward.

These 21st century skills will, indeed, help our students become successful in their jobs. But more importantly, these skills will help our students become better thinkers and doers, so that they can find success and meaning in whatever they choose to do with their lives.

Employee Traits Most Wanted by CEOs

<table>
<thead>
<tr>
<th>Employee Trait</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborative</td>
<td>75%</td>
</tr>
<tr>
<td>Communicative</td>
<td>67%</td>
</tr>
<tr>
<td>Creative</td>
<td>61%</td>
</tr>
<tr>
<td>Flexible</td>
<td>61%</td>
</tr>
<tr>
<td>Opportunity Seeking Analytical/Quantitative</td>
<td>50%</td>
</tr>
<tr>
<td>Technology Savvy</td>
<td>41%</td>
</tr>
<tr>
<td>Globally Oriented</td>
<td>41%</td>
</tr>
<tr>
<td>Assertive</td>
<td>25%</td>
</tr>
<tr>
<td>Disruptive</td>
<td>15%</td>
</tr>
</tbody>
</table>

Mindsets: How We Approach Life

The final piece of a 21st education is more intrapersonal than interpersonal, and encompasses the qualities that most often predict student success—and student happiness. What does a student think about herself? How does she face each new problem? A central mindset is resilience, also referred to as perseverance or grit. Can you bounce back from obstacles, look beyond short-term failures, and find passion for long-term goals? Can you stay calm under pressure and deal with ambiguity? Resilience is connected to courage: the ability to act despite fear, take risks, and be open to new experiences. Part of developing resilience is metacognition, or learning how to learn and how to teach yourself when you hit those obstacles.

There’s been a lot written about mindfulness, and for good reason. It’s so important that we make time for reflection—that’s what leads to true, deep learning. Mindfulness, or “paying attention on purpose,” leads to self-awareness and a sense of identity: confidence in who we are and an understanding of our place in the world. It also teaches us empathy, so that we can see from someone else’s point of view and have compassion for their experiences, which is so vital to cross-cultural competency and collaboration.

We wouldn’t be doing our job if we didn’t give our students strong ethics. Honesty, kindness, integrity, inclusivity: this is what makes us responsible, caring citizens of the world. We hope to give them a sense of purpose, helping them to shape their role in our changing world. And, what might seem trivial but is absolutely essential throughout all of life’s ups and downs is a sense of humor and joy.
It’s All about the Student Experience: How We Need to Teach

At Menlo we’re rising to the challenge. Our strong academic program, high-caliber faculty, and exceptional students put us in an ideal position to continue to evolve and future proof our students.

There’s a lot of great work we’re already doing today. But good organizations don’t wait until the wolves are at the door. This is exactly the right time for us to be looking at the core elements of our educational experience to make it even better.

More Relevant and Globally Aware

How can we engage the mind and create support for deep learning? To build the skills and build those mindsets over the course of an academic year, a week, or a day at school.

More Interdisciplinary and Experiential

You may have heard the phrase “moving from knowing to doing.” This is the underlying idea behind project-based, experiential, real-world learning. Think about the kind of learning that goes on when students plan, write, design, and produce an online arts magazine that’s read by a wide audience, like The Menlo Bard (themenlobard.org). I won’t ever forget the absolute joy I saw on the face of a student last year at the Menlo Maker Faire: he had completely gutted an old VW Bug, built an entire electrical engine, and was preparing to register the car so he could drive it around town. Our biotech students intern in local labs and are often listed as authors of ensuing published papers. How can we expand this kind of integration of real-world experiences and curriculum?

Much project-based learning is, of course, also team-based. Our eighth grade students team up for the Decades project in History. They learn to collaborate, share responsibility, and even share stage time as they teach their designated decade to their classmates through music, video, lecture, and performance. Co-curricular programs like drama and sports are the epitome of collaborative work—can we expand this kind of integration of real-world experiences and curriculum?

The role of the teacher must evolve as well, from the expert in front of the class to the collaborator. Menlo already does this well. Every year visitors tour Whitaker Lab, and it is indeed a remarkable workspace with sophisticated tools. But what these visitors are really here to see is the collaboration that goes on between teachers and students as they create learning together. Watching Dr. Dann and a student trying to figure out why the circuitry of an EEG “mind control” device isn’t working—that’s a thing to behold.

More Balance and Well-Being

We can’t forget that our students are surrounded by a world that can be hyper-competitive and stressful and that puts their health and happiness at risk. But we can teach them how to create balance in their lives, redefine success, and preserve joy. Menlo puts a premium on social and emotional learning (SEL), evidenced by our Middle School Human Skills class, the freshman wellness course, and excellent school counselors who lead a host of activities that teach mindfulness. We recently piloted “Open Session,” an advocacy program in which students can respond to each other’s real-life issues and concerns and offer support, encouragement, solutions, and wisdom to their peers.

What do we hope a Menlo graduate looks like? We really already know, and we certainly see them. At the end of every year, we present the Muse Awards, given to seniors who inspire us. Here are a few awarded last year that demonstrate the kind of people we want our kids to be:

- The Exemplar is “an ambassador of creativity, kindness, good cheer, academic excellence, and leadership…This muse is unfailingly positive and supportive of others both as individuals and as members of groups with common purposes.”

- The Adventurer “found a multitude of ways to examine the world around her, and in doing so, demonstrated the power of independent initiative and commitments.

The school must represent present life—life as real and vital to the child as that which he carries on in the home, in the neighborhood, or on the playground.

—John Dewey, philosopher and education reformer

Mindfulness

Art teacher Dr. Nina Ollikainen
The Humble Scholar “shares her opinions and insights unp pretentiously, but they often alter the course of others’ learning.”

The Community Builder “graces the Menlo community with laughter, authenticity, and joy…His sincerity and compassion open our hearts, while his quirky demeanor and love for others shows us the way to be more deeply and richly human.”

We can be very proud of our students—and we can evolve so that we continue to graduate such prepared young men and women.

This is, actually, what students really want from their schools. They want their work to be relevant. They want to know that their work has meaning, and that their lives and in the world. And they want to enjoy their time while they’re here.

And so Menlo is creating a new strategic plan for the next five years. Many schools focus on facilities and financial needs in their strategic plans, and ours will certainly include those elements. But because of our strong foundation, we’re able to think even bigger and look at the entire student learning experience. We have the latitude to reflect on all aspects of the school. This is what great schools do. And to do less, to miss this opportunity, would be irresponsible.

Why We Do What We Do

Our job is to prepare our students to make their own high-altitude jump. We don’t know what that jump will be, but we do know that their parachute will be a set of skills and mindsets that enable them to adapt quickly to new, complex problems—and to lead lives of fulfillment and meaning. If we do that, we can help our kids leave the world better than they found it.

Put simply, our purpose is to transform our students and, through them, transform the world.

This is why, as we begin our second century, we’re doing the hard work of examining everything we do. We’ll build on the great programs that already exist and continue to innovate to create the best 21st century education.

And then we’ll watch our students make the jump.

Menlo Can Lead

Why should we lead the way? Because we’re ready and able, and because it’s the right thing to do.

Throughout its history, Menlo has always responded to the social and economic circumstances of the time. The world is now at an inflection point, and we’re in the perfect place to respond again. We’re tremendously grateful for the hard work of so many people who’ve put Menlo in a position of great strength. Admissions numbers are up, we have an outstanding faculty, and our students are eager to learn.

We also have the good fortune to live in a center of innovation and exploration. I’ve written before about the opportunities we have to work with the thinkers and creators of Silicon Valley, not just in tech but also in medicine, art, entrepreneurship, social justice, and a host of other vibrant areas of intellectual pursuit. Menlo can, and should, lead innovation in education as well.

As much as any generation before them that might have gone into politics and government or volunteered for war and exploration, they want to do good, change the world, and follow their principles.

— Fareed Zakaria, Journalist

Athletic Director Kris Weems

Endnotes
3 Anna Davies, Devin Fidler, and Marina Gorbis, Future Work Skills 2020 (Palo Alto, CA, Institute for the Future for the University of Phoenix Research Institute, 2011), 10.
6 This graph is based on one in Maya Bialik et al., “Character Education for the 21st Century: What Should Students Learn?” (Boston: Center for Curriculum Redesign, 2015), ii.
7 Howard Rheingold, quoted in Davies, Fidler, and Gorbis, Future Work Skills 2020, 11.
16 Zakaria, In Defense of a Liberal Education, 158.