Fueling A Personalized Learning Revolution In Secondary Education

AUTHORS:
Gregg Levin
Bruce Lovett
Carri Schneider
Tom Vander Ark

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Executive Summary

The implementation of new college- and career-ready standards and the next generation of student assessments creates a unique opportunity to explore ways in which the traditional educational experience can and should evolve. Increasingly, schools and districts across the country are harnessing the power of technology to meet the higher and deeper expectations that the new standards demand. Yet the potential of bringing technology into the classroom goes well beyond its uses as a tool for accessing new and customized content—it involves reimagining the roles of students and their learning experiences.

When schools use technology in tandem with face-to-face instruction to personalize instruction, it is called "blended learning."

Christensen Institute defines blended learning as a formal education program in which a student:

- learns at least in part through online learning, with some element of student control over time, place, path and/or pace;
- learns at least in part in a supervised brick-and-mortar location away from home; and
- the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.[1]

When blended learning meets the criteria described in the above definition, learning is more personalized. It is "paced to student needs, tailored to learning preferences, and customized to the specific interest of different learners."[2] However, in addition to creating more engaging, personalized learning experiences in core classroom instruction, blended learning offers students better access to a diverse set of high-quality learning experiences, such as Advanced Placement (AP), world languages, electives and courses not offered in their home districts.

While there are many compelling reasons to shift to blended learning, the decision to do so can leave school and district leaders feeling unequipped to handle this digital shift. Increasingly, leaders are seeking partners that bring expertise, support and solutions within reach.

"Fueling a Personalized Learning Revolution in Secondary Education":

- Describes how personalized, blended learning can improve access to high-quality learning opportunities for secondary students.
- Highlights the various experiences of high school students in districts across the country that are accessing Fuel EducationTM (FuelEd) courses to blend learning.

In order to achieve these interrelated goals, the authors begin with an introduction that defines key terms related to personalized, blended learning and describes how the learning and teacher experiences change in this environment. Next, the authors explain the various types of models available to secondary schools that are seeking to implement blended learning. After reviewing rotation and flex models, the emphasis turns to the topic of blended secondary subjects. In this section, the authors describe the reasons for blended learning and offer examples in practice across math, world language, humanities and more. Finally, the paper returns to the key principle of students as the drivers of blended learning by exploring what is needed to support self-blended learning at the course level. In the paper's conclusion, the authors end with the acknowledgment of the ways in which district partners like FuelEd can help schools to leverage their own expertise and content with a diverse set of blended and online learning tools and supports.

Introduction

There has never been a better opportunity to improve educational achievement and completion rates of American youth. New tools are boosting engagement, extending learning time and personalizing learning. New school models are making teachers and students more productive and showing promising results. These new tools and models make it possible to add quality learning options and reinvest in student success in the core curriculum.

Broadband access is growing, devices are relatively inexpensive, and enough quality online courses are available to enable every American secondary student to have access to at least the top six world languages, 30 Advanced Placement courses, advanced STEM courses, dual enrollment opportunities and a wide range of electives.

More students should be graduating better prepared for college and career success. The opportunity set has never been better—for small rural schools, for large urban schools and everything in between. Online and blended learning options are bringing to scale environments where young people have more voice and ownership over what, where, when and how they learn. It is possible to create high engagement, high agency environments where students have the opportunity to progress at their own pace and engage in authentic team-based community-connected learning experiences.

The goal of this paper is to highlight how personalized, blended learning can improve access to high-quality learning opportunities for secondary students. To do so, this paper focuses on various experiences of high school students in districts across the country that are accessing FuelEd courses to blend learning.

Personalized Learning with FuelEd

Fuel Education™ (FuelEd) partners with schools and districts to fuel personalized learning and transform the education experience inside and outside the classroom in grades pre-K through 12. With access to its Personalized Learning Platform, districts are empowered to implement and grow their own successful online and blended learning programs. FuelEd has helped more than 2,000 school districts to improve student outcomes, better serve diverse student populations, and expand students' educational opportunities by leveraging the power of technology-enabled learning.

FuelEd offers the industry's largest collection of pre-K through high school courses, enabling students to create a personalized catalog of learning opportunities across numerous content areas.

The FuelEd Personalized Learning Platform:

- *Simplifies administration and empowers teachers to customize courses with an open, easy-to-use platform.*
- *Offers the ability to integrate curricula from FuelEd, Open Education Resources and other vendors, as well as teacher-created content;*
- *Provides a single, informative view of all online learning activities for the student and the teacher, thus improving reporting and analytics;*
- *Supports teachers with tailored services such as certified instruction and professional development, in addition to customized implementation support and professional services.*

Personalized, Blended Learning

Christensen Institute defines blended learning as a formal education program in which a student:

- learns at least in part through online learning, with some element of student control over time, place, path and/or pace;
- learns at least in part in a supervised brick-and-mortar location away from home; and
- the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.[3]

The maximum potential of blended learning goes beyond customizing content—it involves every part of the student learning experience. When blended learning meets the criteria described in Christensen's definition, learning is more personalized. Students experience more ownership and autonomy in their learning, and they gain improved access to the essential Deeper Learning competencies necessary to graduate from high school college- and career-ready.

According to the National Education Technology Plan, "Personalized Learning" is paced to student needs, tailored to learning preferences and customized to the specific interest of different learners.

The following list describes 10 elements of a personalized, blended learning experience for students:[4]

1. Daily engagement in powerful learning experiences;
2. Culture, policy and tools that support quality work products;
3. 24/7 access to an Internet connected device (or devices);
4. Modern customizable user interface with seamless movement between applications;
5. Achievement recognition and data visualization tools that guide/motivate progress;
6. Flexibility in learning path and pace;
7. Effective academic support systems;
8. Sustained advisory relationship including college/career awareness and guidance;
9. Positive physical environment that supports learning experiences; and
10. Meaningful and healthy extracurricular activities.

The ultimate goal of blended learning is to create opportunities for student learning to be customized to individual needs and personalized along unique learning pathways. This demands thoughtful attention to the experiences of students when accessing educational technology and requires thinking beyond traditional "user experience" when designing student learning opportunities.

Learner and Teacher Experience

User experience (UX) is defined by Wikipedia to be more than a user interface. It "involves a person's behaviors, attitudes, and emotions about using a particular product, system or service". It further "includes the practical, experiential, affective, meaningful and valuable aspects" of the interaction as well as "a person's perceptions of system aspects such as utility, ease of use and efficiency."

With growing access to online learning and the adoption of school models that blend the best of online and face-to-face learning, there is growing attention to what could be considered a specific educational version of UX for both students and teachers: learner experience (LX) and teacher experience (TX), respectively.

Learner experience (LX) would be defined as how students interact within a blended learning environment in order to realize the personalized learning opportunities that blended learning affords. The focus on LX rather than just instruction materials adoption and course selection suggests we should consider learning progressions; where and how students learn; how they demonstrate mastery; as well as school culture and the potential for sustained adult relationships.

Powerful Learner Experience (LX)—students are armed with smart tools, engaged in meaningful work in personalized learning environments that demand critical thinking, reward collaboration, and result in high-quality demonstrations of mastery.

In order to create a powerful learner experience, we must empower students with smart tools, engage them in meaningful work, personalize their learning environments and create opportunities to develop Deeper Learning competencies.[5] The learner experience must also be seamless and cohesive—a goal more readily achieved when students and teachers can access all the courses, content, assessments, data and communications tools they need from a single location. Solutions like FuelEd make all of this possible.

While the evolution of student roles has largely been the focus of much of the national discourse on blended and online learning, the field is just beginning to acknowledge how technology is empowering teachers in new and meaningful ways. With increasingly high demands on the profession, teacher satisfaction is the lowest it has been in 25 years.[6] Higher expectations and lower budgets have taken their toll. As noted in the Digital Learning Now Smart Series paper Improving Conditions and Careers, there is an emerging opportunity to creates more attractive working conditions and career options for educators and therefore create a better teacher experience (TX). As the authors explain, blended learning affords new opportunities to work in teams, expands collaboration time and creates new teacher leadership roles.[7] Teachers can also benefit from personalized, blended professional development and ongoing training that is customized to their individual needs. Increasingly, teachers are turning to online and blended learning as a way to diversify their working opportunities outside of traditional classrooms by teaching courses online and in dynamic blends. Blended learning can help teachers to feel more supported and engaged more meaningfully in their own professional growth, therefore positively impacting job satisfaction.

The Transforming K-12 Rural Education through Blended Learning: Barriers and Promising Practices report highlights the positive impact that blended learning has on those teachers who choose to incorporate emerging models of practice into their classroom environments. The report describes the importance of comprehensive teacher training for blended and online learning environments.

FuelEd Feature: Jackson County School District, D9 Online School

The D9 Online School, part of the Jackson County School District 9 in Oregon, is in its first year of full implementation of its blended learning program and has already seen huge growth. As part of the online school, the district runs a learning center that provides a physical space for the students to visit. When students enter the learning center, they can either use tower computer stations or log in with the personal Chromebook laptops that are provided for each full-time student. The center is open from 8 a.m. to 5 p.m. each day and gives students access to four certified teachers and a handful of classified (non-certified) employees. "Having teachers readily available to tutor students and build relationships—and having that learning center space and support for the district—has been key," notes Bryan Wood, Principal of D9.

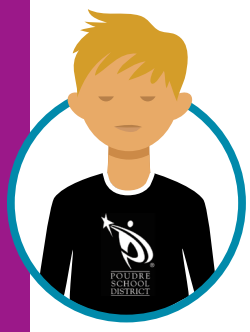
The original online program served only seven students, but has now grown to support over 400 students. Between 40 to 50 percent are dual enrolled, meaning they attend both the district high school and take online courses, while the other 50 to 60 percent are enrolled as full-time, blended learning students. The blended learning school utilizes the district connection to provide the best learning experience for each individual. In many cases the students attend the district high school for part of the day and the learning center for the other part of the day. A majority of D9's students work "on campus" in the learning center, although some choose to work from home or elsewhere, getting support via phone calls, email, and home tutoring services. All students at D9 have access to all district resources such as field trips, clubs and activities.

The goal of D9 Online School is to provide personalized learning for each student. They create an individual education plan for every student who enrolls, ranging from students that school full-time at home with periodic check-ins to students who spend their day in the blended learning center. The program serves Special Education students, credit recovery students and top-ranked students, as well as students who want to take courses that they otherwise would not have access to, such as AP courses. To manage this, the school uses a combination of FuelEd courses for credit recovery and K12 curriculum for all grade levels. Student need dictates access to courses, including blended math, English/language arts, and world languages (all at the secondary level).

A clear orientation process assures that everything goes smoothly as students transition to D9 Online, including procedures and knowledge related to software and expectations of students. "We actually sit down and go through the process with them," explains Wood. "If they don't know how to work online, they often fall behind. We want to make sure they are comfortable and familiar with this new academic environment before they even start the courses."

The staff ensures that students remain on track. "Every Monday the staff has a student progress monitor meeting to review student progress and target certain students for home visits, phone calls and interventions as necessary." The FuelEd technology provides the staff with the information they need to create targeted interventions based on student data.

With D9 continuing to see increased enrollment from semester to semester, the district is poised to give more students the opportunity to find the perfect blend for each student's academic path.



FuelEd Feature: PSD Global Academy K-12, PSD Options School

Based in Fort Collins, Colorado, the Poudre School District (PSD) serves 27,000 students in 52 public schools. Northern Colorado also includes a variety of private, religious, and charter schools, while the state of Colorado currently has approximately 45 online schools that serve students around the state. While the local district demographics are primarily Caucasian and upper/middle class, the school system also includes a large Hispanic population, English Language Learners, and students eligible for free or reduced lunch.

PSD's Global Academy K-12 is a small school—just over 200 students expected for next year. It used to be a fully online school, but Principal Heather Hiebsch is working to increase hybrid learning options and give her students the best of both worlds. Online courses offer students flexibility and personalized learning while the campus setting offers students support, community and opportunities for hands-on learning.

Curriculum is aligned to flow smoothly from online-at-home to in-class-on-campus. Younger grades use K12's K-8 courses while higher grades use a mix of FuelEd and in-house courses with an internal blackboard system. Students work online three to four days per week and receive direct instruction on campus one to two days per week—not lectures, stresses Hiebsch, but those learning opportunities that are difficult to get online, like inquiry-based, hands-on projects, as well as community building. "We have several high schools that are over 2,000 kids each, and some of our students are just looking for a smaller environment. But it doesn't mean they want to be alone or miss out on high school," explains Hiebsch.

Online coursework is overseen by students' at-home learning coaches (typically a parent), but students must also demonstrate mastery to their teachers. "Sometimes there's a gap between what students can do at home and what they can do independently at school," says Hiebsch. "We felt that blending allowed us to identify the holes faster and students to grow more."

For high school credit, the school uses a combination of FuelEd curriculum and courses developed in-house. Online work is blended using their own teachers and Blackboard's Learning Management System (LMS) system, with classrooms based in their physical school. The idea was to keep students engaged—the school even has a gym where students take physical education classes. "A lot of the early philosophy of online learning and credit recovery looked like 30 kids in a computer lab," explains Hiebsch. "But the pass rate was really low because no one was engaging with the students, and these were typically the kids who needed the most support. We realized kids should be enrolled in credit recovery only after they've exhausted the other options and interventions." Interventions include behavior and academic support ranging from online programs to actual home visits by teachers, counselors and even Principal Hiebsch. Last year, the school created and piloted a research-based hybrid Response to Intervention (RtI) model to deliver and monitor highly targeted behavioral and academic interventions to students. "That model worked really well for us, but I don't think it could have worked as well if we didn't have the kids here on campus part of the time," says Hiebsch.

Global Academy began as a credit recovery and dropout prevention program, with a five year plan that included moving from fully online to a hybrid environment while educating the central school district about blended learning. During the program's fourth and fifth years, blending was optional. But Hiebsch considered the blended environment so successful that she met with stakeholder groups that decided blending will be required for the upcoming school year—all students will be on campus twice a week.

"When we were fully online, the rate at which students moved between online and traditional school was so high we had almost no students return from year to year," says Hiebsch. "The more blended we've become, the more kids stay with the school. We're no longer a place where kids come while they're trying to fix a problem and then go back to 'real school.' This becomes their school, and our community and results are strong."

The school also benefits from a tech-friendly district that focuses on individual student growth. Students are evaluated based on their progress in courses, their mastery of teacher-graded work, and internal assessments to measure progress and growth over time. This allows even students evaluated as "unsatisfactory" to show growth. "Sometimes the advanced kids have the hardest time showing growth," notes Hiebsch, "because they'll advance every year no matter what. But you want to make sure they're being pushed to their full potential, so our research department has built statistical growth models, which we probably use more than any other data." The data also help the district target intervention for individual students using multiple programs, both online and on campus—ideally blended—including Study Island's online supplemental curriculum, test prep and assessments.

"We've taken the best of traditional schools and the best of flexible, student-centered, online schools," says Hiebsch. "Our student growth scores have improved every year as we've moved more blended and had more hybrid opportunities. There are some content areas where we're top of the district, and this is a high-performing district. Our staff is incredible, the curriculum is strong and the parents love it."

Blended Secondary School Models

In the Blended Learning Implementation Guide 2.0, co-authored by Digital Learning Now, Getting Smart and The Learning Accelerator, the authors advise leaders on creating conditions for success in planning, implementing and evaluating blended learning efforts. In the guide, "instructional model selection" is one of the six key decisions necessary in properly planning for successful blended learning implementation.[8] The authors point out that the goal of blended learning is improved personalization, customization and motivation and not simply layering technology on top of existing systems. As such, the authors argue for thoughtful attention to choosing a model (or portfolio of models) that best meets the learning goals set forth in the earliest phases of the digital shift.

The field recognizes two main blended learning models that include variations under each: rotation models and flex models. In short, rotation schools add some online learning to what otherwise may look like a traditional school, while flex schools start with online learning and add physical supports and connections where valuable. As a result, the potential for innovation is typically higher in flex schools.

Rotation Model

In rotation models, students move through various learning environments that include some experiences with technology and others in a traditional face-to-face setting. The rotation model is more common at the elementary school level and includes station rotations, lab rotations and flipped classroom.

In order to make a rotation model really work in service of personalized, blended learning, careful planning is necessary to ensure that there are connections made among the various learning environments. Teachers need access to the student data captured during online student lessons, and students need opportunities to demonstrate mastery across both face-to-face and digital environments. In order to realize the full potential of blended learning in a rotation model, creating an integrated learning experience for students is of utmost importance.

Good teachers have long used stations and multi-modal instructional strategies to engage learners and differentiate instruction. Flipped classroom strategies, where teachers push video content out to students for homework, are a form of a rotation model that many individual teachers have found successful. One risk of a rotational model is that individual teachers incorporate blended strategies but fail to transform student-learning progressions. In other words, teachers add tech-powered rotational strategies to existing schools without really giving students control over time, place, path and/or pace.[9] Another risk of the rotational model is that teachers fail to create extended reach and collaboration opportunities for themselves.

Flex Model

A flex model is "a program in which content and instruction are delivered primarily by the Internet, students move on an individually customized, fluid schedule among learning modalities, and the teacher-of-record is on-site."[10] While most instruction is online, "[t]he teacher-of-record or other adults provide face-to-face support on a flexible and adaptive as-needed basis through activities such as small-group instruction, group projects, and individual tutoring."[11]

There is a great deal of diversity among flex models. They operate inside and outside the traditional school building, with some running programs in dedicated facilities and others with the flex facility in the traditional school building. Student progression through content also varies. Ideally, students in flex schools should progress as they demonstrate mastery. In some courses, particularly those

FuelEd Feature: Evergreen School District

Evergreen School District, a quickly growing district in Vancouver, WA, serves over 26,000 students and is home to a comprehensive online learning program that aims to meet the unique needs of students within the district and throughout the state. The district has worked strategically to build teacher support and develop a comprehensive and cost-effective plan ensuring that students from kindergarten through high school have the opportunity to participate in online learning. With the Evergreen Flex Academy, IQ Academy, the Twilight Program, and Legacy High School, an alternative high school, Evergreen School district supports online learning for students of all ages.

More than 300 K-8 students currently attend the Evergreen Flex Academy, which serves as a blended option for district families. With parents acting as learning facilitators, students learn at home three days a week; they take electives and receive additional subject-specific support at a brick-and-mortar facility two days a week.

The district serves over 600 students with IQ Academy. This academy is offered to anyone throughout the state who is looking for an alternative to traditional classroom-based learning. Students can take core courses, art and music, world languages, advanced placement, and technology. Content is provided by K12 curriculum, and students are supported by district teachers through one-on-one sessions.

The Twilight Program uses FuelEd's online credit recovery for those who need assistance getting back on the path toward high school graduation. The district also uses the Twilight program to make sure that learning continues for those students who have been expelled. Evergreen district students can also choose to earn a high school diploma at Legacy High School, which provides a small environment and a personalized learning experience. Students attend one anchor class and then take remaining online or traditional courses based on their specific needs. This model is replicated in smaller academies embedded throughout district high schools.

Evergreen School District is not new to online learning; however, when they were looking to build a community-wide program, they needed to find the right support. "We worked with several different vendors for about five years," says Ted Feller, the district's director of secondary education. "But as we started to grow the last two years, we really saw the need to bring all of our online initiatives together. FuelEd provides the platform where we can create multiple and different types of blended learning experiences—all under one roof."

The district currently has more than 2,000 students participating in online learning and is excited by the success of the program. In 2013 alone, the district saw a cost-effective summer school program which enrolled 100 students in 125 courses at a cost of only $2,450, with 3,983 credit recovery courses completed and 323 eighth grade students earning a high school world language credit. "Our view is that our school system should service the educational needs of the community, but to do so, we needed to look at different ways to provide schooling," says Fuller. "Online learning is a great option because it exposes students to skills that are necessary to prepare them for higher education and to compete in a 21st century global economy.

FuelEd Feature: Flexibility at Bend-LaPine School District

Two years ago, the district hired Dr. Alice Dewitte as the new principal of Summit High School on the west side of Bend, Oregon. A progressive thinker, she pulled together data on her student population at the end of the year and noticed that students with poor attendance were still capable of high GPAs. Interpreting this as passive demand for more flexibility, two teachers were offered the chance to run their classes as flex classes—partially online and incorporating flipped classroom models, rotational models or other blended options. An AP language composition teacher and a U.S. history teacher spent the summer modifying curriculum from FuelEd for use in their classes—one teacher significantly customized original curriculum while another kept it mostly intact—and 350 students opted in for the trial run. The AP teacher uses a rotational model and has students in class five days a week, while the history teacher has students come in three days a week. Students can use the school's "flex hub" to do class work or they can work from home, but any student who falls below a 70 percent in their online courses must be in class five days a week. The school plans to add more content areas next year and expand options for flexibility.

Falcon School District 49 (video)

with teachers at a distance, students instead remain part of a virtual cohort and move through courses together. One thing all flex school should have in common is a digital backbone—core instruction conducted online with on-site academic support and guidance, integration and application opportunities, and extracurricular activities.

In between the rotation and flex models is a group of schools, including Carpe Diem, experimenting with what Christensen Institute calls an individual rotation model in which "students rotate on an individually customized, fixed schedule among learning modalities, at least one of which is online learning."[12] Individual rotation models may also make extensive use of workshops, projects, internships and service learning opportunities around an online core curriculum—a "flex plus" approach.

There are at least 10 potential benefits of flex models that describe why a shift to blended learning would enhance student access to high-quality personalized learning.[13]

1. **Competency-based learning.** Each student progresses based on demonstrated mastery; instructors use cohort groups and teams when and where they are helpful.

2. **Customized experiences.** Flex models make it easy to customize the experience for each student. As platforms get more robust, student pathways will become more customized (by interest, modality, motivation and schedule).

3. **Portability and flexibility.** Students can take a flex school on the road for a family vacation or for a work or community-based learning experience.

4. **Accelerated learning.** Flex models allow students to move at their own pace. For students with partial content knowledge but credit deficiencies, the ability to move quickly and test out of topics they have mastered may allow them to earn credits at 150 percent of the normal rate.

5. **Productive operations.** Flex models have the potential to operate at lower cost than alternative education models.

6. **Rural high school support.** Flex models make it easy to run very good, very small high schools. Where it would have been difficult to serve 100 students with a traditional comprehensive high school model, a flex program can offer every AP course, every world language, every high level STEM course—all in an affordable and well-supported environment.

7. **New staffing models.** Flex models make use of differentiated and distributed staffing (i.e., staffing at different levels and different locations). As Opportunity Culture notes, new ways to leverage talent with technology are needed, and flex models will be the source of the most interesting and productive staffing strategies.

8. **Early college access.** Flex models facilitate college credit accumulation in high school. Look for AP, dual enrollment and career/major specific models. Flex students may be able to finish high school in three years with a year of college credit.

9. **Leveraged local assets.** Flex models provide the unique ability to leverage community assets like museums, theaters, historical sites and natural resources, as well as link to emerging industry clusters and internship opportunities.

10. **Site visit opportunities.** For many educators, site visits are the most important component of professional learning. Experiencing competency-based blended learning with innovative staffing and scheduling is far more powerful than reading about it.

Blending Secondary Subjects

Secondary schools do not need to flip to a blended model all at once; for many schools, starting with one subject is a good option. And, for one of several reasons, some schools will adopt different models in different subjects at different times.

Blended Math

From elementary to college, math is often the first subject area to incorporate blended learning strategies—engaging content, adaptive assessments and logical sequences make math an easy place to start for many schools. For 20 years, lab rotation strategies have been a common way to add personalized learning and a double dose of mathematics.

Open content sources like Khan Academy have accelerated the move both to flipped and blended math as well as competency-based education, where students progress based on demonstrated mastery.[14]

While breaking out of the courses-and-cohorts trap is challenging for most secondary schools, none of this is new to FuelEd—they have been supporting personalized math instruction for over a decade.

FuelEd Feature: Bend-LaPine School District

The Bend-LaPine School District in central Oregon serves a diverse body of over 16,300 students, including affluent students in the resort town of Bend and students in extremely rural schools with high poverty rates (upwards of 60 percent free and reduced lunch). In 2004, the district began offering online supplementary courses for high school students as part of a charter program to serve both struggling and advanced students from multiple high schools. Students and families clamored for further access to online courses, and in response the district dramatically increased the number and variety of online courses available.

The district now offers students supplementary and full-time online options as well as mixed-use and blended options, allowing for truly personalized learning. Almost a decade in, the program has grown from serving about 50 students in its first year to nearly 3,000 students from pre-Kindergarten to 12th grade—more than 15 percent of the district's total student population. Since 2012, students have had the option to take supplementary courses or their entire course load online, ranging from remedial classes for credit recovery to world languages like Chinese and Latin to Advanced Placement physics and chemistry.

Approximately 30 percent of the students taking online courses do so for credit recovery. Because of this, the district created credit recovery options on-site at each high school. A proctor at each high school runs a daily lab period for credit recovery students; attendance is mandatory. The move has been successful for La Pine High School where, despite struggling with graduation rates, the credit recovery lab manages a 98 percent pass rate on over 500 half-credit courses every year.

Another 35 percent of the students who take online courses need schedule flexibility (such as traveling athletes or home-bound students) or want to take classes that the district would not otherwise be able to offer (like Mandarin Chinese). "We've seen people coming out of the woodwork to access these courses," says Tres Tyvand, Bend-La Pine Schools Online Student Services Coordinator. "Reasons include injuries, athletics, anxiety, for special education, or because one class time conflicts with another. We also hear a lot about the benefits of smaller class sizes, less distractions and less time wasted. We have a Kindergarten student from one of our elementary schools whose teacher said, 'I need options for this student, I can't challenge him,' so now he's taking third grade math and science at school. The benefit of online flexibility is we're not telling the parents that they have to stay home all day and supervise their brilliant kid in order to accelerate their learning path."

The program is open to any student within the Bend-La Pine School District, and the program's administrators meet with every family that chooses to use an online course. This enrollment meeting helps the district match each student to the best courses and curriculum for their needs. Enrollment is open until spring break in March.

"We're not cutting full-time teachers; we're allowing teachers to provide the level of service that their students need," Tyvand says. "We're not in competition with our schools or stealing their students; we're working in concert with our schools and families. Skeptics think that these [online and blended learning] tools will allow bad teachers to be worse and I say no, no, no—they let teachers teach more and better."

In 2013, FuelEd awarded the Bend-La Pine School District its "Transformation Award" for "taking a comprehensive, open approach to serving students across the district, effectively providing a 'school of one' to meet students' individual needs."

Blended World Language

According to the Global Competence Task Force report, the specific skills necessary for global competency include being able to "to see and understand the world from a perspective other than one's own, and to understand and appreciate the diversity of societies and cultures" as well as "appreciate the interdependence of nations in a global economy and to know how to adapt [one's] work to a variety of cultures."[15]

Given the global economy our students will inherit, the time has come that every student should have the opportunity to leave high school fluent in several leading world languages—and it is entirely possible to offer the six leading world languages in a blended language lab setting and more online. The courses are engaging, effective and affordable

Middlebury Interactive courses are offered in Chinese, Spanish, French, German, Arabic and Latin. Elementary courses build a solid language foundation. Middle and high school courses focus on development of the four key language skills: listening, speaking, reading and writing. Middlebury also offers customizable Fluency Courses that can be structured for a fully online, blended or traditional classroom implementation.[16]

FuelEd Feature: Jessamine County School District

Just south of Lexington, Kentucky, Jessamine County is a rural district with 8,000 students in preschool through 12th grade. Jessamine is also one of Kentucky's fastest growing schools, growing by an average of 100 students per year. With six elementary schools, two middle schools and two high schools—plus an alternative middle-through-high school—the District had trouble staffing world language programs. Luckily, the District also has a career and technology center and wide support for blended and online learning.

Terry Goodlett oversees a blended world language program that offers German, French and Latin using Middlebury World Languages to any high school student in the District. Students bus to the technology center, which is home base for the district's online courses because it is kept stocked with current technology. Students attend class at the technology center, where teachers provide face-to-face support and ensure students are on task. Laptop carts, smartboards and dedicated wireless hotspots in each classroom make sure that technology is enhancing students' learning, not impeding it.

Students take charge of pacing their own learning. Assignments are online and can be accessed on campus or off. (Assessments need to be unlocked and proctored by teachers.) Students can move ahead of the rest of the class if they want but continue to receive support from teachers. The online tools help students recognize what help they need. "Students know where they stand and what areas they need to work on," Goodlett says. "The online environment helps them tailor their own learning, rather than us tailoring instruction."

Students adjusted well to the online environment. "Our first semester was very much a learning scenario," says Goodlett. "The problem was many students did not know they were attending a blended course—they were expecting the standard Spanish course that had been offered in the school forever. Some were very excited, some were apprehensive." Goodlett says the first blended class began as a heavily online course, then swung back towards heavily "traditional" teaching, but students did not want all or nothing. "They wanted that blended environment—to be able to work with teachers but also to be in charge of their own pace of learning." Solving the issue came down to communicating with parents and students about the new blended courses.

Goodlett notes that the online environment lets students get immersed in the target language, while teacher support helps students who get stuck or frustrated: "It's too easy as teachers to fall back on English to explain how to conjugate verbs rather than let students learn it through immersion, but it's great to have that support if that's what a student needs to be able to learn it. It's best when students can stay in the target language the whole class time."

The blended courses are a success for the district, which had previously seen one high school drop French courses, which then trickled down to the local middle school dropping French—and suddenly, half the district could only offer Spanish courses to their students. "That's not the direction we wanted to take," explains Goodlett. "We're seeing success with blended learning in other content areas, but it makes the most sense in world languages because students get exposure to real-life, non-scripted language and culture through that blended online environment. When I was in high school we had the textbook, but that culture component was out of reach."

STAMP adaptive testing (from Avant Assessment), which tests students' proficiency in speaking, listening, reading and writing, has shown that students in the district's blended courses perform better than students in traditional courses. And scores for the blended courses are increasing from year to year. And because the area is home to a large Russian population, the district is currently looking for online options to teach Russian.

FuelEd Feature: Provo City School District

Provo City School District has been recognized by the state of Utah for their eSchool—a highly successful full-time online and blended school for students in grades K-12 across the state.

The Provo eSchool uses K¹² and FuelEd curricula; students have the opportunity to take their classes in brick-and-mortar schools and online at any location, including home. Online students can still be part of their local school—they can check out library books, participate in sports and even eat lunch on campus.

Last year, PCSD introduced Elite Language Academy to provide students access to foreign language education. With limited resources and a huge geographic area, the district found that attracting and retaining qualified foreign language teachers was not easy or cost-effective. The district now provides more than 400 students across the state with multiple dual immersion and online options spanning six languages using curriculum from Middlebury Interactive Languages.

Blended Humanities

Blended learning can be a powerful tool for deeply engaging students across the humanities curricula—answering the call for deeper engagement with content that the Common Core State Standards (CCSS) demand and fulfilling an important need in the digital age. According to Susan Patrick, President and CEO of The International Association for K-12 Online Learning (iNACOL), "Teachers and students need new media literacy skills to analyze a new cadre of online content and resources and the impact on language arts as a field. Online learning and digital curricula broaden the access and depth for student learning and the evolution of educational materials needs to be embraced in order to offer students the world class education they deserve."[17]

As highlighted in "How Digital Learning Contributes to Deeper Learning," technology can engage students across the humanities in new ways as scientists, writers, producers, inventors and problem-solvers.[18] Several of the schools highlighted in "Deeper Learning for Every Student, Every Day" are using blended learning to create opportunities for students to develop Hewlett Foundation's Deeper Learning competencies.[19] Many well-known school networks utilize project-based learning and multimedia production to complement digital curriculum; they may also use blended humanities blocks to encourage big questions, close reading, and lots of writing.[20]

Blended English Language Arts (ELA) yields more and better student writing supported by word processers, writing application, and full-time access a to a production device (e.g., laptop).[21] Esther Wojcicki runs a celebrated journalism program at Palo Alto High School where students produce seven quality periodicals—the sort of applied writing and production experience that would benefit every student.

Additional Blends

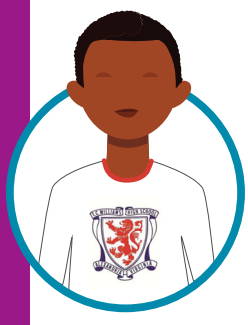
The number and diversity of innovative blended high school models continues to grow. Some districts have opened flex academies in comprehensive high schools.[22] There are career-focused flex high schools on community college campuses.[23] There are global-studies focused flex academies offering six languages.[24]

Some districts have STEM magnet schools focusing on applied and advanced math and science offerings.[25] Several national STEM school networks feature blended and online courses to engage students and extend opportunities.

Many high schools are opening an Advanced Placement academy where some classes are blended and others are offered online. The combination allows schools to offer 20 or 30 AP classes rather than two or three.

There are hundreds of credit-recovery and dropout-recovery academies that provide a personalized environment and pathway for students that have not been successful in a traditional school.

One of the most interesting blended secondary opportunities is to save or even reopen small rural high schools. Small rural schools could operate independently or in a satellite of a larger school. A rural school with 50 students could use two lead teachers—one focused on STEM and one on humanities, supplemented by online languages, electives and advanced courses.



FuelEd Feature: T.C. Williams High School

In 2010, the Virginia Department of Education designated Alexandria-based T.C. Williams High School a persistently low achieving (PLA) school. More than half of its students are eligible for free or reduced meals and more than 20 percent require English Language Learners (ELL) services. Further, the school has experienced very high growth in its student population over the past five years. Administrators turned to online learning to extend learning and increase graduation rates, launching a full program of online courses including AP, core, electives, world languages, online tutoring and health and life skills using the FuelEd family of curricula.

In addition, a satellite campus was opened, designed to meet the needs of students who require additional schedule flexibility because of family or work obligations, or students who want to accelerate their learning and get to college faster. The T.C. Satellite Campus offers FuelEd curriculum, flexible scheduling, internships and one-on-one interaction with content-specific learning coaches. T.C. Williams High School can now meet the individual needs of every student. Dropout rates have fallen, and 84 percent of last year's graduates went on to college.

10

Blended Learning Design Principles[26]

Teacher at the center. *A great teacher is critically important for any learning model. It is important to automate the workflow for teachers, which will free up time for them to work with students. It is imperative to think about how to onboard teachers and how to help them make the shift from being the teacher on stage to taking more of a "coaching" role in the classroom.*

Teacher support is vital. *Shifting to blended and online learning does not mean schools will need fewer teachers. Instead, it creates a way to keep teachers the most important figure in the classroom.*

Quality and ongoing PD builds culture. *Having a shared vision will increase success. Peer observations are said to be helpful and to get staff speaking the same language, thus strengthening the shared vision. Strive to provide real time help and support resources like YouTube videos and professional learning communities. Prepare teachers before school even starts. Orient the school around students, not around content.*

Determine technology. *Take into account what the school's "learning problem" is. What technology will be used? How will it help the school overcome this problem? To successfully implement any technology requires leaders to plan, act, observe and reflect. As students progress through grade levels and have a variety of learning needs, FuelEd provides a digital portfolio that acts as a record of student achievement and tracks student progress.*

Ease of use is essential. *Create a simplified user experience, making all data just one click away, making certain that teacher tools are easy to use so that implementation can happen immediately and without frustration. Get rid of the systems that are too complex for teachers and administrators to learn and manage.*

Rigorous and engaging curriculum. *Students need access to course work they would not have available in a traditional brick-and mortar-setting. FuelEd is building courses that can quickly be customized to the needs of students, providing the ability to significantly increase the content focusing on complex or hard to understand learning objectives. If the thought of offering AP courses or any world language seemed impossible before, it is now possible through blended learning.*

Track student progress and data. *Assessment tools should give robust reporting and effective data visualization so that teachers are able to quickly find which student needs help. Teachers can also use the provided assessment tools or build their own assessments. Data should be measurable, and most importantly USED! "It's how you're getting the power out of a learning experience," says Jean Southland, head of the Silicon Valley Flex Academy. Silicon Valley staff pick three to five key data points to track in order to avoid becoming overwhelmed while still having open, productive conversations around the numbers.*

A large searchable content catalog (from pre-K-12). *The content catalog should provide a rich set of solutions and have the ability to interface with any learning management system (LMS) and student information system (SIS). Teachers should be provided the ability to search for resources as well as load their self-developed content into a district-wide library to share with others.*

Tools that give instant access, including mobile access to reports and data. *FuelEd offers the "PEAK" mobile office app, allowing critical reporting data to be accessed from different mobile devices. PEAK mobile office allows for teachers to work on the weekends and at home—getting work done anywhere; using it on the iPad in the classroom to look up a student's progress while standing next to that student's desk; and letting teachers personalize their instruction directly to each individual student's needs. PEAK services also provide the ability pull out specific data points and email a progress summary to students and soon to parents as well.*

An online platform that does not limit. *Teachers and students should be able to develop curriculum, learning plans and course paths. Whatever online platform is used, it should be flexible and give teachers creative power to create their own lesson plans and teaching artifacts.*

Students in the Driver Seat: Best Practices in Self-Blend

As online courses become increasingly available from school districts and other statewide providers, it is becoming important to study best practices in a la carte, or self-blend, offerings. This section covers the economics of online courses and support and guidance for online students.

Economics of Online & Blended Courses

The potential for cost-savings is one factor among many that drives the shift to blended and online learning. It is difficult to make a general statement about the cost of blended learning programs; it depends on many different variables. Also, local and state funding for these programs varies by district.

However, it is possible to draw some conclusions from a recent Parthenon working paper, The Cost of Online Learning, and from Fordham's Creating Sound Policy for Digital Learning series; blended learning can save some money, and online learning can save a lot. Parthenon estimated "that full-time virtual schools cost, on average, $6,400 per pupil, compared with $8,900 for blended schools and $10,000 for traditional brick-and-mortar public schools."[27]

The cost of offering individual courses is less than one-sixth of a full time enrollment. Individual course offerings do not require transcript management, guidance, student services and administration.

Real costs also depend on the students served. It may cost twice as much to serve over-aged and under-credited youth with multiple risk factors than it does to serve motivated well-supported students. Online and blended staffing ratios vary by program and in some instances may be similar to traditional schools.

The blended learning model that is selected can have implications for costs as well. For example, lab rotation models require the purchase of fewer devices than a flex model that works best in a 1:1 environment.[28] In addition to device costs, the chosen model also has implications for costs related to human capital and facilities.[29]

Hard To Staff Courses

Online learning makes it possible for every high school to offer every Advanced Placement courses, a dozen world languages and hundreds of electives. These subjects have historically been difficult and expensive for many schools to staff.

Advanced Placement and other hard-to-staff courses can be expensive to offer. They are often taught by veteran teachers and have small class sizes. For example, a teacher making $100,000 in salary and benefits who carries a load of 100 students in mostly small classes yields an average cost of $1,000 per student. Compare that to a newer teacher making $60,000 with a load of 150 with an average cost of $400 per student. This illustration shows that many schools spend twice as much to offer upper division and specialty courses compared to core curriculum courses.

Supporting Self-Blends

Guidance counseling is key to ensure that students are assembling a course of study that results in a high level of college and career preparedness. Guidance should not be a barrier to student choice, but it should improve student decision-making and align the high school transcript with postsecondary goals.

Tom Vander Ark explains, "Students have always benefited from performance feedback, mentors, advisors, counselors and strong support systems. The exponential growth of learning options—formal and informal—creates new opportunity but adds new demands on student guidance systems. Adoption of blended learning strategies signals the potential for a more robust blended and distributed guidance system."[30]

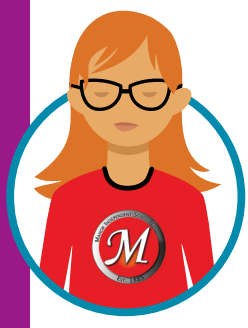
Louisiana provides a great example of a state that is getting this right. Louisiana Course Choice makes online courses and services available to students at lower performing schools. Every school has an onsite facilitator that serves as liaison between the school and Course Choice providers. Schools are obligated to provide a place for students to take an online course, but students may also have the option to take the course from home. The state also provides online counselors to help students make the best possible course selections.[31]

FuelEd Feature: New Orleans Center for the Creative Arts

A 2013 FuelEd Transformation Award winner, the New Orleans Center for the Creative Arts (NOCCA) in Louisiana is an arts high school that enables students to pursue pre-professional arts training in 11 disciplines, including creative writing, culinary arts, dance, theater, visual arts and music.

NOCCA accepts students based on an audition, not past academic achievement, and some students come to the school with the need for remedial courses in core subjects. NOCCA uses FuelEd's prescriptive learning and remediation program, which includes diagnostic tests to work with students in small groups to address specific skills and objectives.

Students at NOCCA also have the option to use Middlebury Interactive Languages to study one of five world languages at school and home, allowing them to take full advantage of on-campus rehearsal and studio space. Each year, a remarkable 95 to 98 percent of their graduates go on to college and conservatory programs across the country.



FuelEd Feature: Manor Independent School District

One-hundred percent of the students at Manor Independent School District (MISD) in Texas were, at some point, considered "at-risk." MISD wanted to find a way to serve its at-risk student body at alternative education campuses and prepare them academically, emotionally and socially for life after high school because they understand that not graduating high school can mean a life of poverty or prison. The district created Manor Excel Academy, a self-paced, technology-driven instructional program designed to accelerate completion of the coursework requirements for graduation. Students use FuelEd's prescriptive learning and remediation program. Combined with individual education plans for each student and an aggressive, blended learning approach that sets high behavior and achievement requirements to participate, Manor Excel Academy has seen outstanding results. The dropout rate decreased from 19.5 percent to 7.5 percent in one year, and there were more Academy graduates in two years than the previous 10 years combined. Austin Community College partnered with Manor to grant each graduate an acceptance letter.

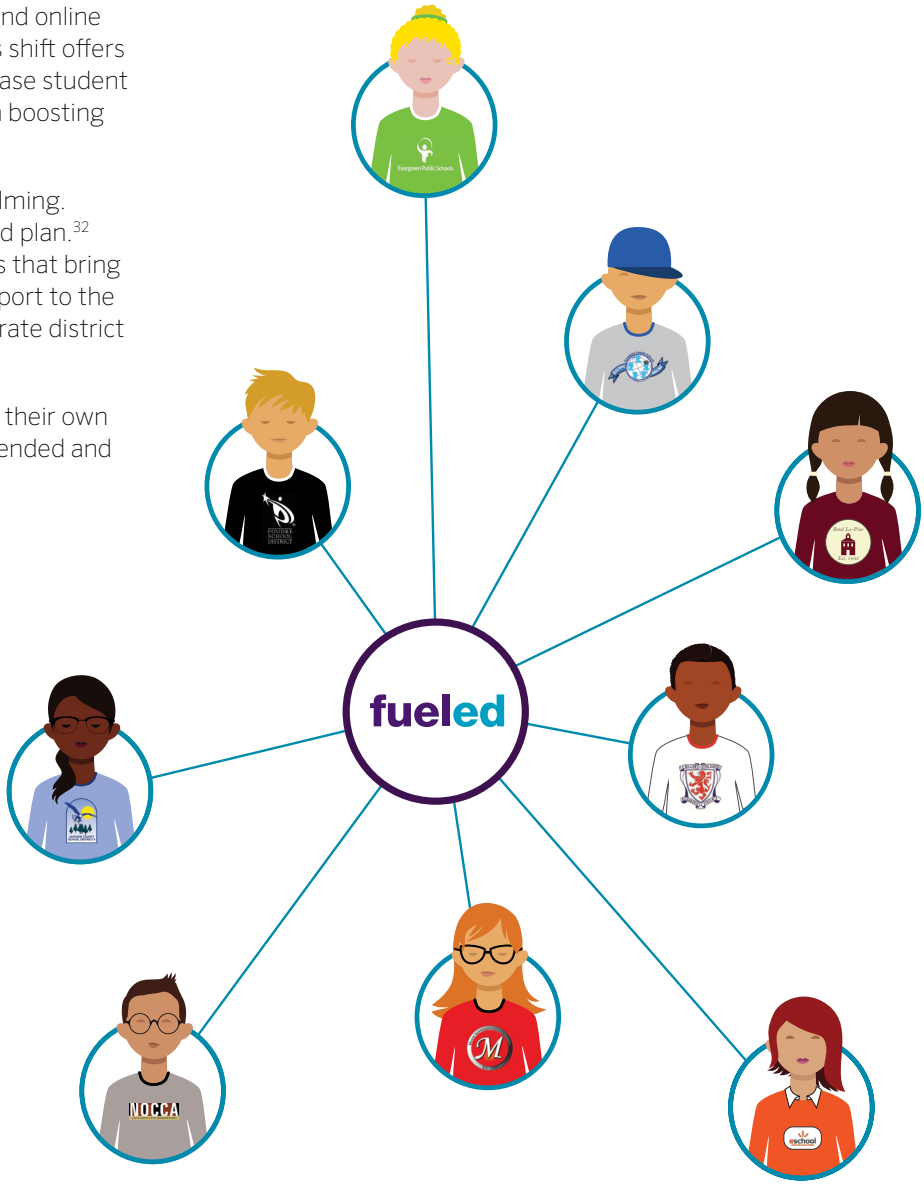
Manor was recognized at both the College Board Conference and National Council on Educating Black Children Conference. At both events, the district discussed its success using online and blended learning, going from no parent involvement to parent involvement and garnering community support for the Academy.

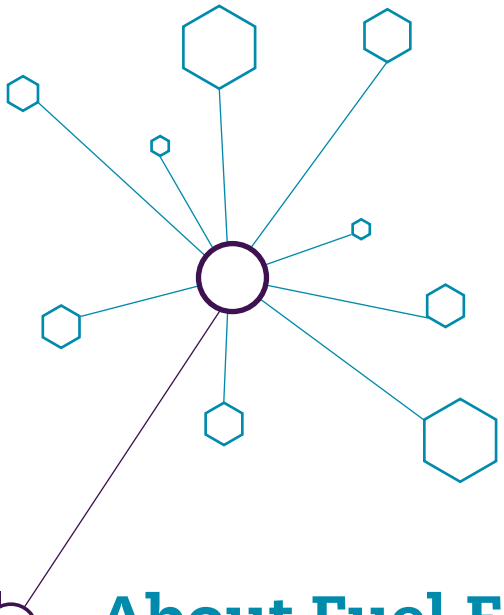
Conclusion

Schools and districts are shifting to blended and online learning for a number of reasons. Making this shift offers the potential for schools and districts to increase student engagement and expand options, while often boosting sustainability and affordability.

The implementation process can be overwhelming. Districts must start with clear goals and a solid plan.[32] Many districts are turning to capable partners that bring content, instruction and implementation support to the table—while offering the flexibility to incorporate district content and talent.

Partners like FuelEd help districts to leverage their own expertise and content with a diverse set of blended and online learning tools and supports.





About Fuel Education

Fuel Education partners with schools and districts to fuel personalized learning and transform the education experience inside and outside the classroom. The company provides innovative solutions for pre-K through 12th grade that empower districts to implement and grow successful online and blended learning programs. Its open, easy-to-use Personalized Learning Platform, PEAK™, simplifies administration and enables teachers to customize courses using their own content, more than 500 FuelEd courses and titles, third-party partner content, as well as open educational resources. Fuel Education offers the industry's largest catalog of flexible digital curriculum, certified instruction, professional development, and educational services tailored to district and student needs. FuelEd has helped more than 2,000 school districts to improve student outcomes, better serve diverse student populations, and expand students' educational opportunities by leveraging the power of technology-enabled learning.

To learn more, visit getfueled.com.

Resources

Blended Learning Implementation Guide 2.0
Digital Learning Now, Getting Smart and The Learning Accelerator
http://www.digitallearningnow.com/wp-content/uploads/2013/10/BLIG-2.0-Final-Paper.pdf

Clayton Christensen Institute, Blended Learning Resources
http://www.christenseninstitute.org/blended-learning-3/

Deeper Learning Resources from Getting Smart
http://gettingsmart.com/resources/deeperlearning/

Fuel Education Resources
http://www.getfueled.com/resources-and-results

Getting Smart Resources
http://gettingsmart.com/resources/

Smart Series Resources from Digital Learning Now
http://www.digitallearningnow.com/dln-smart-series/

"Navigating the Digital Shift" (ebook)
Digital Learning Now
Amazon; iTunes; Google Books

Author Bios

Gregg Levin
General Manager, Fuel Education
Gregg Levin is the General Manager of Fuel Education, which has partnered with over 2,000 school districts to provide personalized learning solutions for pre-K through 12th grade. Gregg has more than 15 years of experience in the Education market, having also served at KC Distance Learning (Aventa Learning) and Educate Online. Gregg received his BS from the University of Rochester and his MBA from the University of Maryland.

Bruce Lovett
Vice President, Marketing, Fuel Education
Bruce Lovett is the Vice President, Marketing of Fuel Education, which has partnered with over 2,000 school districts to provide personalized learning solutions for pre-K through 12th grade. Bruce has more than 25 years experience in marketing and strategy in technology-based companies, including the last three years at Fuel Education. He has co-authored the annual online learning Benchmark Survey in partnership with EdNET Insight as well as a number of white papers on online and blended learning in K-12 education. Bruce received his BA from the University of Virginia and Masters degree from George Washington University.

Carri Schneider
Director of Policy and Research, Getting Smart
Carri is the Director of Policy and Research at Getting Smart. With a background in both policy and practice, she has taught in classrooms from elementary schools to college campuses. Carri served as an online educator from 2005 – 2012 in a fully online Master's program in educational leadership and has authored several pieces on the future of education. In addition to Getting Smart's publication portfolio, she co-edited the book Building a 21st Century U.S. Education System with Bob Wehling, published by NCTAF. Carri has been actively involved in supporting education policy efforts to advance digital and blended learning opportunities as a consultant to state and national organizations. She holds an M.Ed. in educational administration and an Ed.D. in urban educational leadership.

Tom Vander Ark
Author & CEO, Getting Smart
Tom Vander Ark is author of "Getting Smart: How Digital Learning is Changing the World" and CEO of Getting Smart, a learning advocacy firm. Tom is also a partner in Learn Capital, an education venture firm. Previously he served as President of the X PRIZE Foundation and was the first Executive Director of Education for the Bill & Melinda Gates Foundation. Tom served as a public school superintendent in Washington State and has extensive private sector experience. Tom is Treasurer for the International Association for K-12 Online Learning (iNACOL), chair of Charter Board Partners, and serves on several other boards.

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Disclosures

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Endnotes

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