

EDUCATION WEEK

SPOTLIGHT

On Personalized Learning

Editor's Note: Laptops, tablets, and other technologies can engage students and allow them to work at an individual pace. But, for teachers, administrators, and policymakers, there are questions about the implementation and effectiveness of tailored instruction. This Spotlight examines how educators can make "intelligent" assessments of their students and integrate technology to deliver personalized learning experiences.

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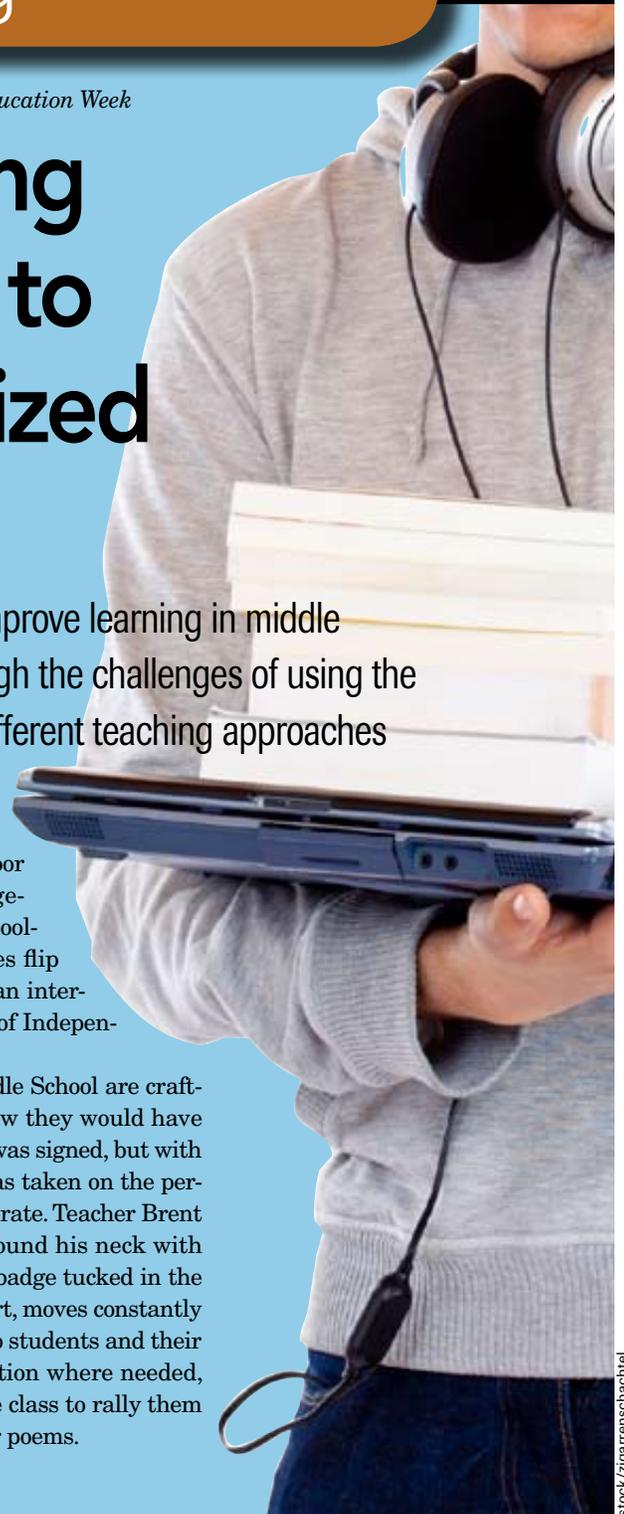
Navigating the Path to Personalized Ed

A Vermont initiative to improve learning in middle schools is working through the challenges of using the latest digital tools and different teaching approaches

By Kevin Bushweller

In a classroom on the third floor of a 110-year-old faded beige-brick building, 20 middle schoolers of varying sizes and attitudes flip open their black HP laptops for an interactive lesson on the Declaration of Independence.

The students at Edmunds Middle School are crafting and revising poems about how they would have felt the day after the declaration was signed, but with a personal twist: Each student has taken on the persona of a patriot, loyalist, or moderate. Teacher Brent Truchon, a lanyard dangling around his neck with the attached keys and school ID badge tucked in the pocket of his red button-down shirt, moves constantly around the room, kneeling next to students and their laptops to give one-on-one attention where needed, before stepping to the front of the class to rally them all to put more imagery into their poems.



Then Truchon moves to a SMART Board, where he uses his finger to scroll and clicks on links to show students how to use a Web 2.0 writing tool to post their poems online for others to read. He explains how the students should read and react to classmates' poems, and how they, in turn, should react to critiques of their own poems. "You can agree or disagree," he says, urging them to think before they write.

Students are at varying levels of progress in the lesson near the end of class when several begin having trouble connecting to the network. Truchon instructs them to save their work to their laptop hard drives and says they'll begin the next day where they left off.

Edmunds Middle School, perched on a hill with a view of the Adirondack Mountains of upstate New York and of Lake Champlain, where some Revolutionary War naval battles were fought, is one of the most diverse schools in Vermont. Forty-one percent of its 384 students qualify for free or reduced-price lunches, and 20 percent speak English as a second language. It is a study in contrasts, serving immigrant children from Africa who have no computer access at home and children from wealthy families with virtually unlimited access, as well as many others in between.

In March 2010, the Vermont Department of Education identified Edmunds as a school in need of improvement based on student performance on state tests.

A group of five teachers and their students, called the Navigator team, is engaged in a pilot project, started in the 2009-10 school year, to use technology to personalize learning and raise student engagement and achievement. It requires a more customized way of thinking about education: Student interests drive many classroom projects, which are often connected to the community, and, in a particularly novel approach, students lead the discussions during parent-teacher conferences. The initiative is a partnership between the school and the Tarrant Institute for Innovative Education, which is run out of the college of education and social services at the University of Vermont. Two other middle schools in the state are also part of the Learning and Engaging Adolescents Project, called I-LEAP, and organizers plan to add more down the road.

Initially, Rich Tarrant, a former chief executive officer of a high-tech company in the state and the president of a philanthropy called the Tarrant Foundation, which has provided a \$5 million grant over 10 years for the institute, saw it as a way to re-engage

underachieving students, especially boys.

Now the institute—which has given Edmunds a four-year, \$250,000 grant—aims to provide technology-rich, personalized learning to a wider range of students, research the impact of the approach, and use those results to make teaching and learning adjustments. The six tenets of the approach—all linked to the developmental needs of young adolescents—are that learning be technology-rich, personalized, relevant, authentic, diverse, and active.

But here's the rub, the ed-tech innovator's dilemma: How can you move forward when there is little, if any, evidence of the impact of technology-rich, personalized learning?

"I think the answer to that question is trial and error," Tarrant says, citing a common approach among successful technology companies. "And it's really important that teachers understand the kids. Why is Joey different than Susie?"

Pacing Themselves

Advocates of creating 1-to-1 computing environments that allow students to use the latest digital tools to work at their own pace, collaborate with peers, and pursue classroom projects that are based largely on their own interests say the heart and soul of this approach is motivation to learn fueled by student interests. But the backbone is still solid academic-skill development. Without that, educators say, learning descends into nothing more than superficial fun and games.

Hussein Hussein, an 8th grader who moved to the United States from Kenya in 2004, is sitting at a table moving very deliberately back and forth from peering into a microscope to typing information into his laptop on a Friday morning in February, just a day after a major snowstorm had hit Vermont. He is sharing the microscope with his lab partner, Nyahm Ali-Levin, a 7th grader. They are both going through a bit of trial and error in determining how to use a wet-mount microscope slide, a scientific skill they will be tested on the following week.

Hussein leans toward the laptop wearing his navy-blue No. 50 athletic jersey and puts his fingers on the keyboard. "I bring the laptop home on the weekends to catch up on work at school," he says. "If I'm missing any assignments, I can get on the computer and finish them. It helps a lot. When I couldn't take it home, I would be behind, and it would be really hard to catch up."

He sometimes takes the computer home during the week, too. And he says he always guards it from his three brothers and three



Having the laptops is really great ... because, developmentally, middle schoolers are all over the place. They can work at their own pace."

JIM KELLEY

Science Teacher, Edmunds Middle School, Burlington, Vt.

sisters. "Sometimes they say they want to use it, too. But I don't really let them use it," he says. "I don't think they know how to take care of it."

Hussein's situation is not uncommon at Edmunds. Many students do not have computers at home, and even those who do often have to share time on the machines with siblings and parents.

Science teacher Jim Kelley illustrates why access to the school-issued laptops—in class and at home—is a key component of technology-rich, personalized learning. While students like Hussein were reviewing, Kelley moved to the classroom SMART Board to show a visitor how the students had used an online microscope, created by the University of Delaware, to learn the proper techniques and nuances of operating a microscope. He clicked on the virtual microscope to show how it could be rotated and focused—and the virtual scope has a checklist to alert students if they are using it incorrectly.

The students worked on their laptops manipulating the online microscope in class and on their own before using the physical microscopes. As a result, when the students conducted a lab examining the difference between plant and animal cells, they were able to concentrate more on the scientific skills they were working on developing and less on figuring out how to use the device, Kelley says.

"This is an area where having the laptops is really great ... because, developmentally,

middle schoolers are all over the place,” says Kelley, who spent much of the Friday class kneeling or sitting with students individually to help them review for the upcoming test. “They can work at their own pace.”

Later that day, in Jim Monahan’s math class, students are gathered in groups of four or five around the four SMART Boards on the classroom’s four walls, working together to determine the surface area of a rectangular prism. The math software program they are using allows the groups to click on the prism and watch the colored images folding and unfolding in three dimensions, helping the students determine the number of faces, vertices, and edges.

There is quite a bit of trial and error going on, mistakes being made and corrections following, as Monahan moves from group to group giving tips (but not answers) for how to solve the problems, and looking for students who might not be contributing to their groups or simply do not understand the concepts.

Monahan is moving cautiously in embracing the use of technology to personalize learning. His lessons do not use the laptops as much as lessons in other subjects. And he still questions whether technology-rich, personalized teaching lessons are more effective than traditional approaches. For the state assessments, he points out, his students are tested the same way as students being taught very differently and more conventionally in other schools around the state. That’s why he remains a bit skeptical about using the laptops extensively in math lessons. He wants to continue moving forward in his use of technology because it does seem to have a positive impact on student engagement, but he doesn’t want to head in that direction at the expense of his students’ grasping math concepts.

“I wrestle with that,” he says.

Even regarding the SMART Boards, which he uses quite a bit, Monahan says “show me a teacher who can show me [the boards] have a direct effect on student achievement, and I’ll fly there.”

Building in Rigor

In Kathy Gallagher’s language arts class, students are just starting a research project on an American icon of their choice. The projects are part of the student-driven learning that is a hallmark of the I-LEAP initiative. Students work with teachers to frame “essential questions” about what they need and want to learn. And the teachers try to guide them.

Even advocates for technology-rich, personalized learning concede that it is an approach that, when done poorly, can be a recipe for academic fluff. They point back to the personalized-learning approaches popular in the 1970s that ultimately failed because they lacked academic rigor.

“You have to build the rigor in,” says Penny Bishop, the director of the Tarrant Institute for Innovative Education and a professor in the college of education and social services at the University of Vermont. “That’s how you avoid the fluff. That’s what makes personalized learning work.”

On this day, school library media specialist Carole Renca is visiting Gallagher’s class to give a lesson in how to conduct high-quality research—in essence, setting up the backbone of 21st-century research skills necessary to do a project tailored to the students’ interests.

As the students sit in groups around the room, Renca stands at the SMART Board clicking on links to sources, such as the Library of Congress, that will take these students way beyond the walls of Edmunds Middle School. Behind her are three windows with a view to the west of the snow-capped Adirondacks.

“Once you get out in the Google world, you will be in the Wild, Wild West of information,” Renca tells the students. “Is the source credible or not?”

She reviews how to determine the credibility of an online source, and Gallagher pipes in with a story about a boy at a different school who got in some hot water when he cited information from a disreputable site suggesting that the Holocaust never happened. Gallagher tells the students they need to pay close attention to who is providing the information, and she and Renca provide warning signs for potentially disreputable sites.

The librarian and the teacher also go over the many multimedia sources available for research, such as the Britannica Online Encyclopedia, which has an audio feature that reads pages aloud, a learning tool Renca says some students might prefer to use; and the Discovery Channel, which has thousands of videos that the students have approval to download into video-editing software and use to meet the multimedia requirements of their final presentations.

In essence, the American-icon project aims to help students learn important academic and technical skills and fuel student engagement by having students pursue their individual interests. Gallagher sees a significant improvement in student engagement as a

result of the technology-rich, personalized approach to learning. Still, questions remain about its effectiveness.

“How do we know it’s working?” asks Gallagher. “It’s very hard to measure.”

The Role of Relevance

You might expect that the last class on a Friday in a middle school would be a recipe for disengagement. But on this day, the students in Brent Truchon’s social studies class are caught up in a lively discussion about the February protests in Egypt and the violence then occurring. Their school-issued laptops are open, but for this moment in time, they are simply talking.

Truchon plays an ABC News video on his SMART Board about the escalating threats and attacks against journalists in Egypt covering the protests. He asks the students why the government might be behind some of the attacks. “Because Mubarak thinks it will make him look bad,” one girl suggests of the Egyptian leader’s view of the news coverage.

Then Truchon guides the students in a discussion back to the American Revolution, relating the unrest and opposition to freedom of the press in Egypt to what was going on between England and the colonists at the time.

“If you want to organize a rally, how do you do it now?” he asks.

“You tweet, you text,” says one boy.

“If you are the president of Egypt and you don’t want this to happen, what do you do?”

Several students mention that the government had Internet-service providers shut down access to the Web.

Truchon then instructs the students to log on to an educational resources site to pull up a multimedia document about Egypt. He tells them to think about the similarities of what is going on in Egypt that day and events occurring during the American Revolution, and jot down their observations.

It’s a lesson about relevance as much as history. What happens today is relevant to what has happened in the past. But it all has to be tied together, and Web 2.0 tools are being used to speed up and enhance that understanding. Truchon believes in the power of those tools. Yet, in the same breath, he emphasizes that the technology should never be the focal point.

“The bells and whistles will take you for two months, but after those two months you better have substance,” he says. “Otherwise, you lose the students.”

Creating a Custom Playlist for Learning

Technology experts recommend teachers utilize a variety of tools and activities to address individual student learning needs:



Class lessons:

Traditional lessons for the whole class help introduce a lesson or reteach material as needed.

Assessments: Teachers conduct regular formative assessments, using some quick digital applications and analytic tools, to determine students' skills and academic needs.



Skill-building games:

Computer-based games that focus on developing specific skills like vocabulary or multiplication facts.



Group projects:

Students collaborate on assignments using technology and traditional research and presentation tools.

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The Personal Approach

Digital tools for defining and targeting students' strengths and weaknesses could help build a kind of individualized education plan for every student.

By Kathleen Kennedy Manzo

Teachers have always known that a typical class of two dozen or more students can include vastly different skill levels and learning styles. But meeting those varied academic needs with a defined curriculum, time limitations, and traditional instructional tools can be daunting for even the most skilled instructor.

Some of the latest technology tools for the classroom, however, promise to ease the challenges of differentiating instruction more creatively and effectively, ed-tech experts say, even in an era of high-stakes federal and state testing mandates. New applications for defining and targeting students' academic strengths and weaknesses can help teachers create a personal playlist of lessons, tools, and activities that deliver content in ways that align with individual needs and optimal learning methods.

For educators who struggle to integrate technology into their daily routines and strategies, the notion of a kind of individualized education plan for every student is more pipe dream than prospect. Yet the most optimistic promoters of digital learning say the vision of a tech-immersed classroom for today's students—one that offers a flexible and dynamic working environment with a range of computer-based and face-to-face learning options customized for each student—is not far off.

Several examples of such customization have recently emerged across the country, and are garnering

“Those examples are a crude picture of a future scenario, where there's a student playlist of learning experiences, some of which happen in something that looks like a classroom, some with a computer, and some at a com-

munity resource, like a library, museum, college, or workplace,” says Tom Vander Ark, a former executive director of education for the Seattle-based Bill & Melinda Gates Foundation who has advocated for years that schools should take a more individualized approach to learning. He is now a partner in Vander Ark/Ratcliff, an education venture-capital firm. “Their day could look like an interesting variety of activities, driven by their learning needs, not by the school's limitations.”

'Feedback to Children'

Vander Ark says that supplemental-service providers, like private tutoring companies or after-school programs, have taken the lead in offering tailored instruction. The ways those providers use assessment tools to gather and process data and then suggest a roster of activities for each student could pave the way for similar approaches within the school day, he says.

He points to one widely publicized model: New York City's School of One.

The pilot program at Dr. Sun Yat Sen Middle School in Chinatown provided math lessons that were customized every day to meet the individual needs, and progress, of the 80 incoming 7th graders who volunteered to attend the five-week session this past summer. The School of One combined face-to-face instruction, software-based activities, and online lessons designed to move each new 7th grader through a defined set of math benchmarks at his or her own pace.

As students entered school each morning, they could view their schedules for the day on a computer monitor—similar to the arrival-and-departure monitors at airports—and proceed to the assigned locations. A student's schedule could include traditional lessons

from a certified teacher, small-group work, virtual learning, or specific computer-based activities, most of them offered in converted space in the school library.

After each half-day of instruction, teachers entered data on students' progress and instructional needs into a computer program that recommended the next day's tasks.

Preliminary data showed significant student progress toward mastering the skills targeted in the program, officials say. The district is continuing to track participants' progress.

The school—named one of the 50 best inventions of 2009 by Time magazine—expanded in the fall to three middle schools in the city as an after-school program, and is set to guide the school-day math course at one of them this spring.

"When we ask ourselves how much instruction during the course of a typical school day does each student get exactly on the skill they're working on, and in the amount that is right for them, the answer is very little," says Joel Rose, a former teacher who has been instrumental in the development and expansion of the School of One.

"By leveraging technology to play a role in the delivery of instruction," he says, "we can help to complement what live teachers do."

The San Diego Unified School District is betting that the bulk of a recent \$2 billion bond measure for technologies designed to transform teaching and learning through a more personalized approach will yield academic improvements.

The five-year plan for the 135,000-student district started this school year in 1,300 math classrooms. The students, in grades 3 and 6 and in high school, were issued netbook computers, and teachers were required to complete 39 hours of training on instructional strategies using technology. Classrooms throughout the district were also equipped with a variety of interactive technology tools.

After introducing content, teachers can immediately test students using remote devices attached to their netbooks. Students are then assigned to appropriate practice activities or more in-depth lessons.

"The wait time for getting feedback to children is sliced significantly. This is about the speed of learning and the depth of learning," says Sarah Sullivan, the principal of San Diego's Pershing Middle School. "This is the first time I've seen the promise of technology appearing to be paying the dividends we want."

San Diego plans to expand the program next year to other grades and into other subject areas.

Experts caution, however, that instituting such large-scale change is not simply a mat-

ter of putting new tools in place. As in San Diego, most teachers will need extensive professional development to use digital tools and learn the best ways of teaching with technology.

Making the Transition

"In many ways, the challenge we face with technology is similar to the challenge we face with data," says Stephanie Hirsch, the executive director of the Dallas-based National Staff Development Council. "We have more and more of both with little support to help educators know how to use it ... to advance their effectiveness and student success."

A number of teachers have found their own ways to harness some of technology's potential to get a closer gauge of their students' work, and to provide a range of options for them to consume required content and demonstrate knowledge.

For several years, Shelly Blake-Plock has asked students in his Latin, English, and art history classes to summarize what they've learned from class and document their progress on assignments in daily blog entries. The students at The John Carroll School, a Roman Catholic secondary school in Bel Air, Md., can post Web links they used in their research, photos and drawings, or short videos that show their work.

Blake-Plock, who writes the popular Teach Paperless blog and has a large following among educators on social-networking sites, says the entries are a continuous source of formative data that he can use to evaluate how students are doing.

If he observes a lack of basic understanding or language skill in some students' work, he says, he can suggest online resources and activities to get them on track. When students reveal their personal interests—such as one student's passion for painting and another's talent for music—he can craft assignments that allow them to explore the content through those areas.

"Before I went paperless and used the blogs to get information from them, I would only see students' work if they wrote an essay or turned in a quiz or test," Blake-Plock says. "Now I'm seeing what they're working on all the time, ... and I'm finding it's a lot easier for me to tell if a student is having problems early on."

'Lack of Innovation'

The advantages for students are potentially more compelling, given the widespread enthusiasm among young people for using technology to create and consume media, ed-tech experts say.

"We have this generation of students that



Blogs: Students can write blog entries to demonstrate what they've learned, outline their research, and communicate with their teachers.

Independent

Research: Assignments outside of class using online and traditional resources give students the chance to guide their own learning.



Online courses:

Virtual learning could give students access to credit-recovery or accelerated courses, as well as enrichment and intervention activities.



Tutoring: One-on-one or small-group tutoring sessions, on-site or virtually, aid students who are struggling academically.

Museum Site Visit:

Students can tap into outside educational resources, such as museums, libraries, and local historical sites.



years to customize everything they come into contact with,” says Steve Johnson, a technology facilitator at J.N. Fries Middle School in Concord, N.C. His book *Engaging All Learners With 21st Century Tools* is due out from Maupin House Publishing this coming summer.

The educational technology market is slowly responding with the kinds of products that can help teachers track and target their students’ learning needs.

Wireless Generation Inc., a New York City-based technology company, created its Burst Reading program in response to teachers’ comments about the need to vary basic literacy lessons for the many students who did not fit the developmental patterns assumed by lockstep reading lessons.

The company, which helped build the technology applications for the School of One, designed an assessment schedule for K-3 reading schedules that gives feedback and recommends lessons for small groups of similarly skilled students every 10 days. Although the Burst program suggests only face-to-face lessons for students, its underlying assessment relies on sophisticated digital tools for gathering and analyzing data from individual students.

“It’s this model of deeply analyzing the data in a way that no human teacher would have time to do, and mapping lessons to kids’ abilities, that’s fundamental to what education is going to look like in the future,” predicts Wireless Generation’s chief executive officer, Larry Berger. (Berger serves on the board of Editorial Projects in Education, the nonprofit corporation that publishes *Education Week Digital Directions*.)

The company is working on similar products for middle school reading and elementary math.

At the same time, traditional textbook publishers are starting to adapt their products for greater personalization as well. McGraw-Hill Education, for example, has developed the K-6 CINCH math program for use on interactive whiteboards that includes differentiation options.

The slow pace of development of customizable content and tools is frustrating, though, to some in the field, particularly in light of the widespread adoption of such strategies for training in the U.S. military, or their entrance into the mainstream in public schooling in other developed countries, Vander Ark says.

“This is not science fiction,” he says. “None of the technology we’re talking about is really advanced, ... but the fact that it doesn’t exist yet on a large scale in education is just a reflection of a lack of innovation in that sector.”

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Moving Beyond One-Size-Fits-All

By Michelle R. Davis

In today’s digital marketplace, students of all ages can create experiences tailored just for them. When a teenager searches for movies to watch, an online film site can provide suggestions based on past viewing history. Music lovers can create personalized playlists for everything from a workout in the gym to a study session. And when children play video games, they can choose a variety of paths—based on their interests and skill levels—toward slaying a dragon or defeating an enemy.

Then many of these same students walk into their classrooms and sit at their desks to absorb one-size-fits-all lessons or, if they’re lucky, instruction aimed at the high-, mid-, or low-level learner. And in many cases, there is little, if any, technology integrated into those lessons.

In some pockets around the country, though, educators and schools are turning to technology and different teaching and learning approaches to give students a personalized learning experience that mirrors the customized experiences they take for granted in their lives outside of school.

Teachers are using “intelligent” assessments that allow students to skip concepts they already know to focus on those they struggle with; teachers are also collecting student data to craft lesson plans based on student interests and educational needs; other educators are letting students fulfill curriculum requirements by doing everything from writing a traditional essay to creating a video or a website; and online-course providers are allowing students to go as fast or slow as they need to grasp material.

“In regular, face-to-face classrooms, it’s very difficult to create an individual experience for each student unless you can make the learning independent but also interactive,” says Jeff Snyder, a former classroom social studies teacher who is now an assistant principal with the Jefferson County, Ky., public schools’ eSchool, an online school with more than 6,000 students. “Technology

“ Technology allows students to go in their own direction, which is really difficult to do in a classroom with 30 different kids at 30 different levels in 50 minutes.”

JEFF SNYDER

Assistant Principal with the Jefferson County, Ky., Public Schools’ eSchool

allows students to go in their own direction, which is really difficult to do in a classroom with 30 different kids at 30 different levels in 50 minutes.”

Personalized Paths

As the move toward personalization unfolds, those in the forefront say it can raise students’ interest in learning, help them follow their passions, and ultimately boost achievement. Anecdotal evidence of the success of this approach is building, though research on using technology to personalize instruction is still struggling to catch up with practice.

Experts caution that personalization doesn’t always mean catering to each and every student’s individual whims.

“The kind of personalization that is valuable in education is not complete and total personalization, which would be pandering,” says Vikram Savkar, a senior vice president and publishing director at the New York City-based Nature Publishing Group, which has created an online science-based social-networking site called Scitable. The site allows students to discuss scientific topics and connect with researchers.

“In education,” says Savkar, “it’s not about

giving students what they want, it's about a recommended learning path just for them."

Many teachers have been trying to personalize education in one way or another for decades. But they've been hampered by the hours needed to prepare such lessons, class-time limits, and the number of students they serve.

Until new technologies arrived on the scene, true educational personalization "has been a manual, tedious, laborious process," says Julie Young, the president and chief executive officer of the 97,000-student Florida Virtual School, based in Orlando.

A host of new devices and programs, such as 1-to-1 laptop initiatives, online courses, digital lessons, interactive tools, and smart assessments, have shown learning can take place at all hours of the day or night and at different levels—or even subjects—within the same classroom. The new technology takes the old model of personalization and makes it more scalable, Young suggests.

But that doesn't mean students should be totally in charge of their own learning, Young says. "This does not mean a teacherless environment," she says. "On the contrary, it means you need an even more talented teacher who can think creatively and guide students."

Definition Evolving

A growing number of schools and programs across the country are trying to make it work. New York City's School of One program uses technology and teachers to tailor lessons each day based on students' individual strengths and weaknesses. The Florida Virtual School's online courses often give students a choice of how they want to progress through a course, which topics they want to tackle first, and whether they want to use text, video, audio, or simulations to absorb the material. The North Carolina initiative Project K-Nect uses smartphones to provide students with opportunities to help each other solve math problems at their own pace through social-networking sites created specifically for math.

But an understanding of just what personalization through technology means, and definitive research into which strategies and tactics work best, are still evolving, says Yong Zhao, the director of the Center for Advanced Technology in Education based at the University of Oregon in Eugene. "Personalized learning is very hard to measure," he says. "The objectives are so diverse and varied."

In the end, the goal should be fostering students who are lifelong learners—not just students who have learned the formula for getting good grades in school, says Savkar of the Nature Publishing Group. "We want to inspire intellectual curiosity and those mental skills that students will carry with them their whole lives," he says. "That's the most important thing."

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Policies Seen to Slow Personalized Learning

Digital advancements force policymakers to rethink rules

By Ian Quillen

As momentum for customized, online instruction grows, its supporters say the biggest obstacle to implementing more adaptive curricula and personalized approaches isn't popular will, but state and local policies.

Often those policies date from a time when phrases like "distance learning" and "blended approach" conjured images of a telegraph wire and a home economics course, and when educational jurisdiction had to be defined by place and time.

Now that technology holds the potential to erase both limitations, K-12 education is at a policy crossroads, experts in educational technology policy say, as seat-time requirements, school funding models, textbook-adoption procedures, and teacher-certification requirements restrict the growth and effectiveness of emerging learning methods.

Yet just how to rip away those barriers without causing unintended new side effects is a question that sets off intense debate among a usually tight-knit ed-tech community, and perhaps gives rise to more questions than answers.

"I don't know anyone who has been effective at doing that and providing new regulations and providing flexibility," says Myk Garn, the director of educational technology for the Southern Regional Education Board, in Atlanta. "I think the truth is we are in a system that is going to change slowly. So the folks that are arguing for complete restructuring are also dependent on those who are deeply committed to making incremental improvements to our existing system."

Moves to replace seat-time mandates, which set the amount of time students must spend in a class before completing

it, with requirements that students demonstrate competency in the skills needed to master the course appear to be gaining traction. Such changes have implications beyond online-only and blended learning, which combines face-to-face and online instruction, but their impact in those settings is especially great, since time constraints are one of the barriers easily erased in virtual education.

Seat-Time Constraints

Already, 12 states have policies supporting some form of "proficiency-based credit," according to "Keeping Pace 2010," the latest in an annual report from the Evergreen Education Group, an Evergreen, Colo.-based firm that researches online education.

The trend "gets a lot of press, and people are aware of it," says Lori Gully, a senior project manager at the Florida Virtual School, which operates as an independent school district and has been freed from Florida seat-time requirements by the state. "It makes conversations easier to start in our home states."

But some policy experts caution that a complete abolition of seat-time requirements could adversely affect the social and collaborative aspects of learning.

Bradley J. Hull, the deputy executive director of the Arlington, Va.-based National Association of State Boards of Education, says that "being more sensible about meeting seat-time requirement" to allow for more flexibility is a better idea.

And a complication could arise in states like New Hampshire, where traditional Carnegie units have been abandoned as a measurement of coursework and individual districts establish their own competencies for high school courses. It's unclear what the adoption of common-core academic standards, an initiative backed by most states, including New Hampshire, will mean in a competency-based environment.

"All of the competencies ... [will] need

to be reworked,” says Irv Richardson, the coordinator of public education and school support for NEA-New Hampshire, the state affiliate of the National Education Association. The affiliate supported the move to district-established competencies in 2006.

“Someone is going to have to do a cross-walk,” Richardson says. “Then, with a common assessment, what will be the relationship between course-based competencies and those assessments?”

The hope is that when those and other issues surrounding competency-based pathways are solved, more states will move toward them, setting off other changes friendlier to adaptive online learning and other personalized teaching and learning approaches.

Textbook policy is one realm that some observers have tabbed as the next for a significant shift.

While publishers are adapting to digital platforms, however, even those inside the textbook industry say policies for how the new platforms are utilized are too rigid.

For example, an internal survey by the New York City-based Association of American Publishers indicated that most if not all of the 20 states that identify lists of approved textbooks for districts include digital texts. But policies generally don’t specify acceptable ways to combine print and digital resources in a manner that could give rise to more adaptive blended-model courses, says David Anderson, a Texas education lobbyist and a former curriculum director for the state education agency.

“What’s frustrating on the school side is, they want to have the flexibility to take advantage of these technological innovations and breakthroughs with content delivery,” Anderson says. “Not every district wants to use print only, but very few districts are ready for online-only delivery.”

The range of district preparedness for technology integration prompts most district-level policy discussions, which often pertain to students’ and teachers’ use of hardware and software.

Mobile Devices

The past year alone has seen hundreds of districts grapple with how to regulate social networking and mobile computing, each of which has the potential to expand the school day but also raises concerns about online privacy and safety. For instance, schools have to decide whether students should be allowed to take school-issued laptop computers home, as well as whether to support the use of student-owned mobile devices for in-school learning.

Last October, the Center for Education

Policy and Law at the University of San Diego issued guidelines to help districts write mobile-device policies that would help schools facilitate responsible, educational use of personal devices, without treading on free-speech issues.

Back at the state level, there is hope the common-standards movement could make some changes easier. So far, the Common Core State Standards Initiative has produced standards in reading/language arts and mathematics. Common standards would make mapping adaptive content easier, and potential common teacher certification would make online instruction easier across states, some experts on ed-tech policy say.

But others insist major changes won’t flow without a more radical restructuring of the education landscape.

“The reason things reach mass audiences in other fields is there are powerful incentives to scale them up,” says Andrew Coulson, the director of the Center for Educational Freedom, an arm of the Washington-based Cato Institute, who advocates changes that would make education more reflective of the business world. “Rather than trying to reproduce in a monopoly things markets do naturally,” he contends, “it makes a lot more sense to just create a market.”

Yet the 98,000-student Florida Virtual School, which has been funded by the state on the basis of per-student course completion since 2003 and has been aided by its freedom from seat-time requirements, achieved substantial change without a truly radical overhaul. It owes its success to a combination of knowledgeable state legislators, population growth that made districts eager to find learning alternatives for students, and public support for new approaches, says Mark Maxwell, the school’s chief government-affairs director.

“At the time, [then-Gov. Jeb Bush] had a lot of support for change, the legislature understood Florida Virtual School, and some of the people ... were still around [the legislature] that supported it from the beginning,” Maxwell says. “The districts did not fight it. ... They had so many things on their plate, they didn’t come in and fight it.”

“I think the truth is we are in a system that is going to change slowly. So the folks that are arguing for complete restructuring are also dependent on those who are deeply committed to making incremental improvements to our existing system.”

MYK GARN

Director, Educational Technology, Southern Regional Education Board

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Researchers Tackle Personalized Learning

But determining what works is proving to be challenging

By Michelle R. Davis

The Digital Learning Council, a group formed by a pair of former governors—Republican Jeb Bush of Florida and Democrat Bob Wise of West Virginia—released a report in December calling on schools to do a better job using digital tools to personalize learning. The nation's largest educational technology conference, ISTE 2010 in Denver last June, was packed with sessions about how technology tools can be used to play to students' strengths and weaknesses. Prominent virtual schools are riding the personalization bandwagon, too, touting the use of digital tools to customize education.

But the question most educators ask is: Does this tech-driven personalized approach work? That's where things get a little murky.

For starters, "personalization" in education can involve so many different approaches that it's hard to define in a universal way. And experts say there are very few large-scale models of excellence, backed by research, for educators to turn to for guidance. Beyond that, it is hard for researchers to isolate the impact of the digital tools when evaluating a personalized-learning approach that emphasizes the use of technology.

Still, researchers are examining a whole host of aspects of technology-oriented personalized-learning strategies, from intelligent assessments to pathways for course completion and personal learning environments. And supporters of using technology to personalize the educational experience for K-12 students argue that waiting for the research to catch up before trying new ideas could slow the development of more-effective models for using technology to customize learning for students.

"There's not a lot of research telling us that cellphones are better than a handset, yet you wouldn't want to turn back," says Jayne W. James, the senior director of education leadership for the International Society for Technology in Education, or ISTE, a Washington-

based nonprofit group that aims to improve teaching and learning through technology.

Tracking Clues

Some studies, however, are providing clues about what works.

A recent report by Project RED, a national research and advocacy initiative, found that 46 percent of nearly 1,000 schools surveyed reported that teachers who had access to digital tools spent more time daily on individualized and small-group instruction rather than on teacher lectures. Project RED, which stands for revolutionizing education, is closely linked to the Mason, Mich.-based One-to-One Institute set up to investigate what works in technology-rich learning environments.

The report, "The Technology Factor: Nine Keys to Student Achievement and Cost-Effectiveness," also found that more than half the schools said that their students were engaged in real-world, problem-solving learning activities using technology on a daily or weekly basis. About the same percentage of schools said that students were directing their own learning by identifying research topics and resources and giving presentations of their findings.

Richard E. Ferdig, a research professor at the Research Center for Educational Technology at Kent State University, in Kent, Ohio, says existing research suggests that if educators use technology to provide personalized learning experiences, the technology can help by expanding those teaching approaches on a much wider scale.

'Hard to Measure'

Some research about personalization has to do with timelines and pathways for students to make their way through curricula, says Cathy Cavanaugh, an associate professor of educational technology at the University of Florida, in Gainesville, who is currently a Fulbright scholar in Nepal.

"The timelines and time frames students have available, the flexibility, all of that will be

an increasing component of personalization," says Cavanaugh in a Skype video interview. "It shouldn't be a surprise that we're finding that students who have more flexibility" are doing better, she says.

That's borne out by the Project RED data, which found that the use of technology-based interventions for English-language learners, struggling readers, and students in special education were the top predictors of improved high-stakes-test scores, dropout-rate reduction, and course completion. The study also found that a student-centered approach in which the pupil works at his or her own pace was critical.

Wendy K. Drexler, a postdoctoral associate in educational technology at the University of Florida, has been studying personalization by researching how students create their own "personal learning environments" online using networked learning skills, in which students use online networking and research to build knowledge.

Students follow and contribute to blogs, approach subject-matter experts online, collect data on a topic, and then organize it in a way that makes sense and allows others to build on it. Though Drexler says her research allowed her to see whether those students were meeting curricular standards through those high-tech methods, she acknowledges the difficulty in studying the success of those strategies.

"It's hard to measure, especially if you're trying to measure it the way you'd measure accountability on a large scale," Drexler says.

But personalization often hinges on how a given educator implements the technology.

Ferdig's research has shown that incorporating a face-to-face mentor into students' use of online courses is directly linked to success. But there needs to be an increased focus on how the teacher uses the technology, Cavanaugh says.

"There's been a lot less research on the role of the teacher," she says. "We've been so focused on how [technology] works, that we haven't gotten to some of the questions about specific teaching practices."

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'Hybrid' Charters on the Move

New charter school models are combining online-only learning and face-to-face instruction

By Michelle R. Davis

Five days a week, high school students stream into a building that once housed the old San Francisco Press Club. A biometric fingerprint scanner takes attendance as they enter a building adorned with wooden wainscoting and fireplaces. Students access their laptops under crystal chandeliers and study digital content in the club's old reading room, which still features a mahogany bar.

While the setting evokes an older era, the San Francisco Flex Academy charter school is thoroughly modern. Though the students attend school every day, their courses are offered through an online curriculum accessed through students' laptop computers. But Flex Academy also has teachers of core subjects—English, history, math, and science—on site, who meet with small groups of students throughout the day to troubleshoot areas where students are lagging, based on information collected by online assessments.

Albero Berul, a junior, likens it to an office setting: Students work independently and with others on projects, and meet in small groups with teachers. Berul says he sought out the school after becoming frustrated in the overcrowded classes in his regular public school, where he earned B's and C's.

"It just wasn't working for me," says Berul, who is now a straight-A student. "I knew I could do better. Here they're really focused on individualized attention."

Across the country, the numbers of hybrid or blended charter schools are on the rise. Loosely based on the idea of combining face-to-face education with online instruction, these hybrid charters can often look very different. Some are primarily virtual schools that have added a limited face-to-face component. At others, like Flex Academy, students attend school in person daily.

The reasons behind the popularity of such schools are as myriad as their forms. For the for-profit virtual charter school companies, it's good business, since the number of students who can participate in full-time online schools is limited. In other cases, financial

woes have pushed charter schools to think about new ways to deliver learning. Others cite the goal of ultra-personalization in giving students both an online teacher and a face-to-face one.

"There are tons of different models, and it's exciting and messy," says Michael Horn, the executive director of education at the Innosight Institute, a Mountain View, Calif.-based nonprofit organization that advocates innovative practices in education. He is a co-author of the 2008 book *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*.

"What we're moving toward," Horn says, "is the realization that if our expectation is to educate every single child successfully, then we need structures that can individualize and personalize, and there's no way to do it in the way we have historically approached this."

Of course, many of these models are still in their infancy and remain unproven. And the focus can't be on the latest technology, argue educators such as John Danner, the co-founder and chief executive officer of Rocketship Education, an elementary charter school that serves more than 1,000 students on three different campuses in San Jose, Calif., and combines face-to-face instruction with online learning. Instead, he says the focus must be on what truly works for students.

"I think technology is over-hyped right now," says Danner. "We need to make sure we don't get too enamored of the technology."

Serving Working Parents

Many hybrid charter school models are brand-new; they're still working out the kinks and hoping they see big achievement numbers on state testing. The 2010-11 school year is Flex Academy's first, and the hybrid charter high school has 100 students.

Mark Kushner, the school's executive director, says he expects to have 250 students next year and has plans to open several similar charter schools. San Francisco Flex Academy uses a virtual curriculum provided by K12 Inc., a for-profit online education company based in Herndon, Va.

"The virtual school model is wonderful for those families with the ability to have their children at home or supervised in their workspace, but the majority of families can't

“ Students can work on their own, but they also get the support and the social aspect. This is like a win-win.”

EARLY KING

Head of School, Youth Connection Charter School
Virtual High School

do that," Kushner says. "This [hybrid setting] enables families to use ... the K12 curriculum, but it solves the custodial issue."

That custodial issue—the need for many parents to have their children supervised during the workday—is a driving force behind some hybrid charter schools, even if it's not an academic one.

Another K12 Inc. school, the 4,700-student Arizona Virtual Academy, had been nearly all-virtual for most of its eight years until this school year, when officials partnered with YMCAs statewide to create drop-in centers, says Megan B. Henry, the head of school. Visiting the centers isn't mandatory, however, and students attend in three-hour blocks. If students come more than three days a week, they get a free Y membership, Henry says.

About 250 students are using the drop-in centers. So far, the school has few statistics to determine whether those students get an academic boost, but Henry says retention rates have already increased.

The Arizona school's all-virtual model limited the number of students who could attend, Henry says. "When we looked at the reasons parents don't choose us, or leave us, a lack of socialization was an issue, and families with two parents working was a problem," she says. "This helps fulfill a need."

That problem becomes a business dilemma for companies like K12 that are looking to expand, Horn says. "They've had to start looking at blended options to continue fueling their growth and profit," he says. "By necessity, they had to expand in the hybrid area to deliver for their investors and better serve kids."

At the 230-student Carpe Diem Collegiate High School and Middle School, based in

Yuma, Ariz., students spend 60 percent of their time on computers during the day and 40 percent on face-to-face instruction, says Rick Ogston, the executive director. Each student is assigned a PC in a cubicle as his or her own workspace and follows a daily schedule that can be adjusted based on the student's need for more individualized attention from on-site teachers, either one-on-one or in small workshops, Ogston says.

Hybrid Conversion

Though *Carpe Diem* has been around for a decade, it converted to the current format, based on a digital curriculum, six years ago. "One of the most important lessons we've learned is that it's not about technology. It's about leveraging technology wisely," Ogston says.

Both the face-to-face and online components are critical to success, he says. The online curriculum frees teachers to provide individual attention and enrichment to students; the assessments built into the online components provide a real-time window into how students are doing on a daily basis.

Students are responsible for their own learning, Ogston says. They can move at their own pace, but if they are "irresponsible with their time in any given week," they'll have to spend more mandated time at school to help them focus, he says.

While Ogston embraced the hybrid model after his school was in operation for several years, Michael Kerr, the founding principal of KIPP Empower Academy, based in Los Angeles, was pushed into it. His initial plan was to open a more traditional version of the Knowledge Is Power Program charter elementary school, but California's budget crisis cut more than \$270,000 from funding for his proposal right off the bat.

Instead, a San Francisco-based foundation (which wishes to remain anonymous) stepped in and offered a grant of \$200,000 to finance a technology-based model. The school, in its first year of operation, has four classes of 28 low-income kindergartners, and 15 computers in each room. Each class has a lead teacher and either an instructional assistant or a rookie teacher. Twice a day, the pupils use digital curriculum on the computers for 25 minutes at a time, which enables the class to break into three small groups: one on the computers, one with the lead teacher, and another with the assistant or novice teacher.

The school is using a digital curriculum

that allows students to move forward quickly if they master the material and circles them back to concepts they haven't grasped, Kerr says. Most of the students came into the program with no computer experience; by the end of the first month, 80 percent could independently log on to the school dashboard, which provides curriculum choices.

Though it's still early, there are some positive results, Kerr says. In the beginning of the year, a literacy assessment found that 9 percent of the students were proficient. By midyear, 85 percent were proficient, he says.

"We're cutting costs and getting a lot of data," Kerr says. "It has helped us save a lot of money, but it has also given kids access to 21st-century skills they wouldn't otherwise have."

The hybrid charter model is also being used to address particular groups of students who have struggled in other settings. At Chicago's Youth Connection Charter School Virtual High School, a partnership of the city's school system and K12 Inc., the target is high school dropouts. The Chicago district has an estimated 15,000 dropouts a year, says Early King, the head of school, and he wanted to address that problem. In the YCCS model, students are typically attending just to earn the few remaining credits needed for a high school diploma and often stay only a semester or two.

The students have face-to-face teachers in addition to online teachers, and King says it was a struggle at first to get those educators on the same page. Now the school has mandated biweekly meetings for teachers to discuss students and tailor both their online and in-person offerings accordingly.

Students, who receive free laptops and Internet connections, spend three hours a day at the school building and are expected to work independently off site for two hours a day. Many have children or jobs, and the flexibility of the school day allows them to be successful, King says. The school also offers a work-study program, allowing students to get academic credit for job experience. There's a counselor on site, and there are social outlets, such as a student council, exercise classes, and movie days.

In its first year of operation, the school's graduation rate was 94 percent, with an 88 percent student-retention rate, King says.

"Students can work on their own, but they also get the support and the social aspect," he says. "This is like a win-win."

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Credit-Recovery Classes Take a Personal Approach

Developers of Online Credit-Recovery Courses Say They Are Constantly Trying to Figure Out What Will Motivate Students

By Michelle R. Davis

This school year in the Los Angeles Unified School District, there's been a major shift in the way classes are provided to the students who need to repeat courses they have failed.

Traditionally, options for those students might be summer school classes or sitting through the same course the following semester, sometimes even with the same teacher. But now, many students who were unsuccessful the first time around can approach a course in a totally different way: online.

"We have an explosion in online credit recovery going on," said Themistocles Sparangis, the chief technology director for the 680,000-student district. "That explosion negates the whole idea that virtual instruction is not for these kinds of students."

This past fall, more than 2,500 students in the district took online credit-recovery courses, compared with about 300 last school year. And Los Angeles isn't the only large urban district embracing the new technology. The Boston, Chicago, and New York City school districts are doing the same.

The reasons, Mr. Sparangis said, are numerous. Such classes allow for students to go at their own pace, for lessons to be differentiated, and for students to work free from

embarrassment if they don't understand a concept. Tracking student results in such classes in Los Angeles has shown that online credit recovery "is at least equal to or better than just giving the course again," Mr. Sparangis said.

Because the use of online credit recovery is relatively new, there is little research, beyond anecdotal evidence, on its effectiveness in the K-12 arena. And some research suggests schools should be careful before assuming online credit recovery would work for most low achievers. For instance, a recent study of college students by the National Bureau of Economic Research noted that Hispanic, male, and low-achieving students benefited more from live instruction rather than online learning.

To be sure, Mr. Sparangis said he doesn't expect to replace all the district's credit-recovery options with online offerings. But he sees it as one more tool in the district's toolbox to help struggling learners. "We're going to continue with our traditional methods, but there is so much more that we need to do," he said. "Adding more options is better."

Credit recovery is one of the fastest-growing areas of online education, and the way course providers and developers are crafting those courses is changing quickly as well.

Individualized E-Learning

"We continually try to figure out what will motivate the students," said Gregory Marks, the director of product development at the Lansing, Mich.-based Michigan Virtual University, a state-sponsored institution that produces online courses and oversees its K-12 arm, the Michigan Virtual School. "Providing context is very important."

With a heavy emphasis on personalizing instruction, online credit-recovery courses can reach students by basing instruction in real-world concepts that help make a connection, Mr. Marks said. For example, one math unit on fractions uses a musical beat to help students understand the role fractions play in life outside of mathematics. Another course uses a trip around the state to calculate driving times, Mr. Marks said.

Such online courses also integrate media and cater to most students' ability to navigate the Web, allowing them to click through to see concepts, or linking them to video or simulations. They can listen to audio or watch video of lectures or lessons more than once to revisit something they might have missed or not understood, Mr. Sparangis said.

Another key element of online credit-recovery courses allows students to receive rapid feedback. The feedback can come from

“ We have an explosion in online credit recovery going on. That explosion negates the whole idea that virtual instruction is not for these kinds of students.”

THEMISTOCLES SPARANGIS

Chief Technology Director, Los Angeles Unified School District

an online teacher or from technology embedded in the program, Mr. Marks said.

That technology can also provide each student with an individualized experience, something experts say gives students a greater chance of passing a course they've failed before.

With many management systems of online courses, the teacher can set mastery levels for each assignment, concept, or chapter, Mr. Sparangis said. The teacher can decide that a student will progress to the next unit or section only if he or she scores an 85 percent, for example, on an evaluation.

That differentiation for each student is vital for success, particularly in credit recovery, said David Young, an instructional designer at Michigan Virtual University. For example, in MVU's algebra course—one of the most in-demand of the credit-recovery courses it offers—students begin each unit with a pretest. If they do well, they can skip that section and focus on content they really need to learn, Mr. Young said.

Mr. Marks said that strategy came about only through trial and error. Initially, students would spend hours doing a thorough preassessment before even starting the course. The result was that students were bored, and that not much useful information was collected.

Preventing Failures

Some school districts are identifying students for enrollment in online credit-recovery courses before they actually fail a class. Through a program last summer, the Chattanooga, Tenn.-based Hamilton County Virtual School, which serves the 42,000-stu-

dent Hamilton County district, focused its efforts on helping struggling elementary and middle school students.

The students took their courses in a computer lab with a facilitator present and an online teacher as well. They received breakfast and lunch and had their registration fees repaid if their attendance was good.

As students progressed through the reading and math courses, their path was tweaked every week by their online teacher. Eighty-three percent of the students successfully completed the program, said Debi Crabtree, the coordinator of the Hamilton County Virtual School, which serves about 1,000 online-credit-recovery students a year.

The first two weeks of the courses, no grades were counted, as the students got comfortable with online learning.

"Most of these kids were used to getting a lot of F's, so we tried to start their path so that they could experience success and get used to this new interface," Ms. Crabtree said.

Students went back to school for the new academic year more ready than before and, the district hopes, with a leg up on passing classes, Ms. Crabtree said. She plans to continue to target students with such credit-recovery courses before they fail.

"I would love to see us do so much more of this," she said. "It's a no-brainer."

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INTERVIEW

Passion-Based Learning for the 21st Century

Interview by John Norton

Sheryl Nussbaum-Beach, a former classroom teacher and school administrator, is a widely known speaker and trainer on the use of interactive technology in K-12 education. She is the co-founder (with Will Richardson) of Powerful Learning Practice, LCC, a professional development provider oriented around digital networks, and the co-author of the forthcoming book *The Connected Educator* (SolutionTree).

In this interview with education journalist John Norton, Nussbaum-Beach describes the transformation she believes must take place in teaching and learning practices if elementary and secondary schools are to remain relevant in an era when information and communication technologies will continue to expand exponentially.

Q Help us understand the shift you say must take place in teaching.

Well, we live in a connected world, with the Internet and powerful digital technologies literally at our fingertips, so it would be foolish not to integrate those things into the learning experience. But when I talk about the shift to 21st-century teaching and learning, I am not talking primarily about changing the tools we use. I'm talking about transforming the way most teachers teach today—either because they were taught to teach that way or because the accountability system makes them believe they have to teach that way.

Instead of thinking that I am “The Teacher”—the knowledge-giver who stands up front in total control—instead of that traditional pedagogy, we need a 21st-century vision of teaching, where there is less teacher talk and more student talk, where what I'm doing is thinking about how I am going to pull the most out of these kids; how I'm going to enable these students to be empowered; how I can make sure that I create a classroom that's free from threat and stress, where they'll be willing to take risks.

Instead of me having all these preconceived ideas of what they should do, saying, and producing, I have to be open to what I find in each student. I have to discover—and help each student discover—their talents and interests and create a learning environment where they can use those gifts and passions to learn from a position of strength.

Q But “passion” is not a word we're used to hearing when we talk about the learning process in school.

I know passion-based learning may seem like a crazy kind of term. Some people hear it and think about learning that's out of control—that it's all about what students want to do and not about what they need to do. A lot of critics will say kids don't even know what they want to do. They worry that we're going to take learning and shortcut it to the point that people aren't truly deep learners. That's not what I'm advocating in any way, shape, or form.

But I think one of the things we've done is we've trained the passion out of our students from the 2nd grade up. I think kindergartners and 1st graders and some 2nd graders still have it, but after that, forget it. It's gone. Another way you might want to describe it is a “sense of wonderment.” Really looking at the world with wonder and bringing a sense of wonder to certain things that we just want to learn everything about.

So I think passion is a great word, and it fits with the ideas that I'm trying to convey. If it causes people to step back and to think, either from a positive or a negative place, at least they're thinking.

Q This personalization of learning—giving students more control—is frequently criticized as an abrogation of the teacher's responsibility to direct the learning process.

What I'm envisioning is that I am still the teacher in the room—as the decision-maker, I am in control of the outcomes that I want to happen around core content or the affective domain. The difference is that I am going to allow these kids to pick and choose the areas they are most passionate about. I'm going to use an “appreciative” strategy that says students learn best when we have them work from their strengths to accomplish the outcomes, rather than having to work from their weaknesses. Which means that as a teacher, I'm going to have to be a master of the curriculum. I've got to know exactly what I want the end result to be in order to allow these kids to approach what we need to learn from their own passion or their own personal interest.

Q What does it mean to have students “work from their strengths”?

If we support teachers with the right working conditions, they will have the time to develop deeper relationships with their students. So, just like a parent, they will come to understand each student's strengths—what their interests are, but also how each of our students learns best. That's what I mean by “strengths.” Good teachers have always had this capacity, but we've stolen so

much time away from them in our obsession to “cover the curriculum” that it can be much more difficult to accomplish. One of the chief ways teachers gain this insight is through ongoing informal classroom assessments. That kind of assessment also takes time and is more difficult to accomplish in the helter-skelter rush to “be accountable.”

Whenever you use a one-size-fits-all assessment or instructional approach, some people are going to be allowed to work through their strengths, and others are going to have to approach that objective through their weaknesses. The potential to have students work from their strengths really comes alive in the 21st century because new technologies and Web tools allow us to manage and express knowledge and information in many different ways. We find ourselves being able to work through content, solve problems, and apply what we know using tools and approaches that favor our strengths, even if our strengths aren’t well-suited to the old paradigms of schooling.

I was watching some video from British elementary schools recently. These are films promoting advanced teaching skills. In one clip, we see the teacher talking to her class about collaborating on a project. “Find the partner you need,” she says. “Some of you are picture-smart or word-smart or number-smart. Help each other.” She’s focused on getting students to recognize their strengths and also collaborate so they can help each other become stronger in other “smart” dimensions too.

Q When you describe the passion-based approach in your conversations with teachers, what’s the reaction?

A lot of teachers say, “Well, it’s not going to work, because the students I have are just not self-directed. I have to tell them what to do and what to say and what to think.” And that’s true to a certain extent, because we’ve trained that into students. But with skillful teaching, we can un-train them.

Teachers who have made this breakthrough often talk about how risky it feels at first. But there is ample evidence out there that students can become confident learners again.

Q Can you give us an example of how you might teach using a passion-based approach?

Typically what I do is I try to construct my course or unit under some big umbrella that I already know is going to be very

interesting to kids where they are right now in their development. So if I’m working with middle schoolers, then one unit I might do is around skateboarding. And so the first thing I do is I sit down and I think about the many aspects of skateboarding.

So I might come up with skateboarding parks; people who skateboard; marketing the designs, clothing, boards; maybe some of the laws that try to control skateboarding; the lifestyle that goes with skateboarding; the extreme versions of the sport; the physical attributes. So I’m kind of brainstorming. And when I look at my list, I pick something, say the laws, and I ask myself what typical kinds of content, coursework, fits with this—civics education, debate, history, etc.

Next what I do is actually align different threads of investigation with the standards. Then I go into the classroom with the kids and say, “OK, this is what we’re going to learn about—we’re going to think about skateboarding in all kinds of different ways. So let’s brainstorm.” I do a concept map with them, and then I look at the things they’re most interested in.

There are going to be certain things that I will teach, because I know there will be state-mandated testing and I want to make sure they do well. So that will be a whole-group thing that I do in a more typical teaching style. But then there’s going to be other pieces that they totally own.

Q What if you’re teaching history or literature? Skateboarding is not going to be a workable umbrella there.

In some instances, passion-based learning is letting kids come up with something they’re really passionate about that can be related to the curriculum, and allowing them to work within that space. And in other instances, passion-based learning is finding out what the students are passionate about within a circumscribed field—within the specific elements of the curriculum that the state says we have to teach in such-and-such an area.

So when teachers say to me, “Oh, you don’t understand high-stakes testing—I just can’t do that right now,” I say, “Oh, yes you can.” It’s not about ignoring the testing, the core curriculum, or the standards. It’s about allowing them to pick an entry point they’re really excited about.

If I’m teaching the Civil War, there might be some boys who are really into the gore of people getting wounded and the kind of medicine that was practiced on the battlefield and in the field hospitals—what happened with amputations and how they did that and so forth. That’s not necessarily something that’s

going to be tested, but they can address the larger learning goals as they learn how their passionate interest relates to everything else going on in the Civil War. It’s also interdisciplinary: there’s the language use, the construction of sentences, the persuasive argument, the problem solving, the way they’re going to share what they learn with the rest of the group, and what they themselves are going to learn from other kids’ sharing their particular interests. It’s all workable to meet curriculum objectives.

When I was leading a small school in Georgia where we used this teaching approach, our students had to perform well on the state accountability tests if we wanted to remain open. So we would devote three weeks or so before the test to look at what we were learning through more of a multiple-choice, facts-based kind of lens. Our kids did great on the tests and then we got back to the kind of teaching and learning we all loved.

Q If you were going to create an assessment system that really honored passion-based learning, what would it look like?

It has to be performance-based and competency-based. As teachers we have to realize that the outcome—the product that’s the outcome of whatever we set up to be the objective of the learning—is the assessment. Instead of relying only on multiple-choice and paper-and-pencil tests, where everybody has to fit into the same box, we need to be able to do things like create portfolios. The digital and Web-based tools that we have today make electronic portfolios very easy. We can take different artifacts and things that kids are doing that prove mastery of the objectives and build a portfolio that displays and documents their learning.

Often what I do is bring students into that process. I say, “OK, this is the objective we’re trying to accomplish. What is the project that you’re going to choose that will show me at the end of our unit whether you have mastered it?” Even in elementary school we can get them to start thinking about that—what they could do, what they could produce that’s going to show me they learned the material and concepts they needed to learn.

Once the teacher matches the objective to the outcome, artifact, or product that you’re going to get—once you say, “OK, this is what’s going to prove mastery, this is how I can assess it”—then teachers really have some concrete pieces of work that they can analyze, work that students have helped select with the level of teacher guidance

that's appropriate for the age group and tasks involved.

I'm all for data-driven teaching and learning. Data can be hugely helpful to us, but it has to be data that tell us about the breadth and depth of what students are learning, in the context of what we want them to learn. In my example, I can decide I'm going to look at growth over time, analyze their electronic portfolios, and find the data I need to tell me whether and to what degree my strategies are working and what I need to do next.

Q Any final thoughts for teachers interested in exploring this approach?

When your teaching practice is passion-based, you're working very hard as you backward-design lessons and assessments and personalize the educational experience for each child in your care. But here's the thing: You're doing what you really need to do to make sure nobody falls through the cracks, and you don't one day sit back and look over your career and think, "Oh my gosh, there were all those kids that I didn't prepare for this world that awaited them, and they're not successful because I didn't do what I needed to do."

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COMMENTARY

The High Stakes of Standards-Based Accountability

By Ronald A. Wolk

The ongoing focus on school reform has led to broad consensus on at least one point: Improving training and support for teachers is key to improving student learning. Indeed, many districts are investing heavily in professional development and emphasizing collaboration among educators. But do these strategies provide enough of the right kind of support for new teachers, especially in high-demand areas such as science, technology, and math?

Through the 1980s and 1990s, the mantra of the school reform movement was "all children can learn." This sentiment was in perfect harmony with our nation's long-standing commitment to universal education—the promise that every child would have the opportunity to be educated to the level of his or her ability.

By any measure, our education system has failed to keep that promise. Although the evidence is abundant and well known, and so need not be detailed here, consider three indisputable facts that capture the essence of the system's failure.

FIRST: The National Assessment of Educational Progress, or NAEP, has reported for decades that an average of three out of 10 seniors score "proficient" or above in reading, writing, math, and science, and their scores generally decline as they move from the 4th grade to the 12th grade.

SECOND: Of every 100 students who start the 9th grade, about 30 drop out, and, according to recent studies, another 35 or so graduate without being adequately prepared either for college or the modern workplace. That means that about 65

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percent of the nation's young people are not being adequately educated.

THIRD: The brunt of the failure falls on poor and minority children, who are on the wrong side of an unyielding achievement gap. It is no coincidence that the gap is between white and most minority students. More than half of all African-American, Hispanic, and Native American students reach the 9th grade without being able to score proficient on reading and math tests. These students are more likely to fail the high-stakes tests and to drop out. They are least likely to attend college, and, if they do, they are most likely to leave without a degree.

To assume that these students fail because of “the soft bigotry of low expectations,” as President George W. Bush suggested in making the case for the No Child Left Behind Act, is preposterous. Their failure is due to the hard bigotry that generations of these kids have suffered. And high common standards won’t rectify that. Indeed, they divert attention away from the real problem by creating the illusion that things will improve if students and teachers are held to even higher standards.

If that were even close to being true, how do we explain that nearly 30 years of unprecedented effort and enormous expenditures has not improved student performance, reduced the dropout rate, or closed the achievement gap?

I am convinced we have made little or no progress in improving education because we misdiagnosed the problem at the outset and, consequently, our efforts to improve student performance have been seriously off course.

That misdiagnosis arrived in April 1983 with the publication of *A Nation at Risk*, the report of a federal commission that stunned the nation. Its major assumption was that our schools were essentially sound and that student performance had declined because we lowered our standards. To improve, we would need to raise academic standards and establish more-rigorous requirements for high school graduation and college admission. That recommendation placed the highest priority on standards and testing.

“Why is it necessary to increase the use of testing when we know from years of previous testing what the results will be?”

After a flurry of publicity, most federal commission reports vanish with little or no lasting effect. Not this one. The reform movement’s course was set. And standards-based accountability has been the dominant strategy of the school reform movement ever since.

But the strategy produced few gains. And now the response of the states is to adopt common-core curricular standards that are to be aligned with common tests being created with \$362 million in federal grants.

Why is it necessary to increase the use of testing when we know from years of previous testing what the results will be? Why make standards more rigorous when experience has consistently shown that student performance does not improve much? The new common standards appear to be better than most state standards, but experience suggests that they will increase only standardization, not student learning.

More standardization is not what our schools need. As the Harvard business professor Clayton Christensen puts it in his book *Disrupting Class*, applying his ideas about “disruptive innovation” to education: “If the nation is serious about leaving no child behind, it cannot be done by standardized methods. Today’s system was designed at a time when standardization was seen as a virtue. It is an intricately interdependent system. Only an administrator suffering from virulent masochism would attempt to teach each student in the way his or her brain is wired to learn within this monolithic batch system. Schools need a new system.”

Personalized education would be the engine of that new system. This change in approach would be rational and would shape virtually every aspect of schooling:

- Schools would be of human scale because students and teachers need to know each other well if education is to be personalized.
- Preschool education would be universal. The primary years would focus intensely on literacy and numeracy, using the arts and other subject matter as the context for learning reading and math.
- Beginning in middle school, multiple educational pathways would lead to college and other postsecondary programs to prepare young people for work in a complex and changing world. A student could choose a pathway reflecting his or her interests and aspirations. Each student would play a significant role in designing the curriculum, which would be anchored in the real world, not in the abstractions of most classrooms.
- There would be no “traditional” core curriculum with typical academic courses and rigid schedules in middle and high school.
- Traditional classroom instruction would be minimal. Teachers would become advisers who guide students in educating themselves. They would tutor students and help them manage their time and energy.
- Technology would largely replace textbooks and worksheets. It would be used innovatively to individualize education and extend the student’s reach.
- Student learning would be assessed on the basis of portfolios, exhibitions, special projects and experiments, and recitals and performances—real accomplishments, not abstract test scores.
- Standardized tests would be used at transitional levels of schooling only to monitor student achievement and school performance for accountability purposes commensurate with public funding.

Some will see this approach as lowering standards even further and substituting “touchy-feely” for rigor and content. I would take that charge more seriously if the rigorous content-and-standards approach were solving the problem today, but it is not.

Yes, standards are an integral part of education; without them, schools are unacceptable. Assessments are also essential to make sure students are learning to read for comprehension, write clearly, and understand basic math. These skills are key to fulfilling the fundamental purposes of

schooling: learning to reason and solve problems; and developing habits of mind and behavior to be good citizens, productive workers, and decent human beings.

Used properly, assessment is a tool that helps teachers see where students need help. It can be personalized to reflect the particular needs, talents, and aspirations of students and accommodate how they learn and at what rate. A new system would have high expectations for students as well as for school administrators, teachers, policymakers, and parents. Those expectations would take into account the enormous diversity of our children and the circumstances that shape their lives; they would also reflect the values of the family and society and not simply the archaic academic demands of college admission offices. Students would evaluate their own work to heighten their sense of responsibility for their own education and their awareness of what is expected of them and why.

In fairness, *A Nation at Risk* addressed the importance of attracting the best and the brightest teachers—who, nearly everybody agrees, are at the heart of successful education—including preparing them well, offering them a career track, and improving their compensation. I believe we would have made real gains by now if we had been as aggressive in promoting these goals for our educators as we've been for promoting standards and tests.

But that course correction would be costly. It would require universities and colleges to finally redesign teacher education, and, most of all, would require transforming schools into professional workplaces.

Going forward, it would be unwise and unnecessary to bet everything on standards-based accountability. The stakes in such a gamble are so enormous that we are morally obliged to consider, simultaneously, the second course I've described and embark on a parallel strategy of creating a new, innovative system.

Ronald A. Wolk is the founder and former editor of Education Week and the chair emeritus of the board of Editorial Projects in Education. He is also the chairman of Big Picture Learning, a nonprofit organization in Providence, R.I., that creates innovative schools, and the author of Wasting Minds: Why Our Education System Is Failing and What We Can Do About It (ASCD, 2011). The views expressed in this Commentary are his own.

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