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# **Personalized** learning for every student every day

The best hope for accelerating student achievement is by using a range of pedagogical and technological innovations that deliver personalized learning to each student.

# **By Stacey Childress and Scott Benson**

The class of 2025 will complete 1st grade in a few weeks. Last fall, those 6- and 7-year-olds strapped on backpacks and embarked on a path that their families hope will lead to a successful, productive life. More than ever, that path runs through college.

Students unprepared for college will have limited options for employment in a global economy where most jobs and industries will require some postsecondary education. In fact, in the 8th grade, 95% of students report they intend to go to college. This aspiration is virtually the same across income groups and geographies.

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Approximately 70% graduate four short years later. But only 37% of all graduates and fewer than 20% of low-income students are prepared to succeed in college. These statistics are consistent across a number of proxies, such as ACT and SAT scores and college remediation rates. And while not all students will choose college, every young person should have a great, free public education that makes achieving their 8th-grade aspirations a viable option.

Will we make good on this promise for the class of 2025 before graduation day?

So far, despite the steady progress to improve student achievement across the country, the probable answer is "not likely." Faced with an urgent need for results amidst increasing budget constraints, many schools are being redesigned to help every student get what they need to reach their own aspirations by creating more personalized learning environments.

#### **Personalized learning**

Since having a teacher for every single child in America is impractical, many educators are exploring more scalable ways to produce gains in student performance similar to those obtained by one-on-one instruction. One promising approach is the personalized learning instructional models.

By personalized learning, we simply mean that student learning experiences — what they learn, and how, when, and where they learn it — are tailored to their individual needs, skills, and interests, and that their school enables them to take ownership of their learning.

Although where, how, and when they learn might vary according to their needs, students also develop deep connections to each other and their teachers and other adults.

When done well, personalized learning can meet all students where they are, motivate them based on their interests and academic level, accelerate their learning, and prepare them to become true lifelong learners.

Personalized learning challenges traditional school design by moving away from a teacher leading the whole class in a common lesson. Instead, each student can follow an optimal learning path and pace through a mix of instructional methods, including individual and small-group time with teachers, group projects, and instructional software. Early evidence indicates that personalized learning can empower and support teachers to meet student needs (Hassel & Hassel, 2011).

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Many innovators are exploring promising options to accelerate learning for students. The Bill & Melinda Gates Foundation is supporting these innovators so they can strengthen promising approaches, identify what works, and spread those models and practices to other school networks and districts.

#### **A Silicon Valley project**

Summit Public Schools in San Jose, Calif., operates six charter schools in the heart of Silicon Valley. Despite the area's wealth, the schools serve a significant population of low-income and immigrant families. Only 39% of Silicon Valley's public high school students complete the right courses to be eligible to

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attend a four-year college.

Since its founding in 2003, Summit has focused on a college-preparatory curriculum for all students and has tried to support teachers in differentiating instruction. The results have been impressive. Since 2007, almost all of Summit's 12th graders have been accepted to at least one four-year college, and standardized test scores have climbed. Recently, Summit has adapted its model to promote personalized learning.

When Summit administrators analyzed data on the school's graduates who went on to college, they noticed that many were not prepared for collegelevel math. They needed remedial courses, which slowed them down and often led to them dropping out. Summit's leaders didn't want their graduates to struggle in college. So they began looking at ways to improve math preparation. After consulting faculty and outside experts, they became convinced that a blended learning model could help students improve. Eventually, Summit partnered with the nonprofit Khan Academy, which offers more than 3,000 free, online math and science video lessons and practice exercises. Teachers worked with Khan Academy staff to develop a blended math model that would personalize learning for students.

On a given day in a two-hour math block, for example, teachers might start by explaining an algebra concept. Students might then grab laptops from a shelf and log into a portal that features an individualized playlist showing exercises and concepts they have completed along with recommendations for what they should do next — a sort of combination of Facebook, Netflix, and iTunes. The playlist gives students access to a range of resources, from Khan Academy videos to other online activities to learning resources created by Summit teachers.

#### **Teachers as curators**

Teachers curate materials for student playlists and help them set their own weekly goals. As students advance at their own pace, teachers can devote their attention and instruction where it's most needed. Teachers and students receive immediate feedback and can adjust accordingly. As one teacher said, "Before you had to teach to the middle. Now you can deliver 35 different experiences" (Bernatek, Cohen, Hanlon, & Wilka, 2012, p. 10).

This school year, based on what they learned in the pilot, Summit expanded and modified the model — described as "optimal learning" — to focus on three core design principles:

- Blend technology and face-to-face learning experiences for students;
- · Focus on competency-based progression and

provide students the opportunity to master individual passions; and

• Allow students to self-direct their learning.

For example, teachers broke down the traditional divisions of math subjects — algebra, geometry, and so on — and developed a math guide based on a logical sequencing of skills. To make math blocks more student-driven, school leaders strengthened the playlist model, which required students to take more ownership over setting and meeting their learning goals.

Summit constantly adjusts its model based on student and teacher feedback. For example, students requested more one-on-one tutoring instead of group instruction to supplement their individual learning. In response, the school developed a Tutoring Bar based on the Apple Genius Bar concept, so that any







student with a problem can receive one-on-one tutoring any time of the day. The school also offers a range of group immersive experiences, or expeditions, to teach students to apply critical thinking skills to real-world problems.

Teachers are now able to reach each student in a personal way. And students are driving their own learning with a clear view of their own goals and a path to achieve them. Importantly, by the fifth year of operation, Summit expects to be using only public revenue for its blended learning model, making it sustainable and replicable without relying on philanthropy.

> Because students' lifelong opportunities are at stake, innovations in personalized learning must be held to a high standard of evidence about what works and what doesn't.

Summit plans to extend these concepts to all other subject areas. They are also growing, with six schools currently open and two more scheduled for 2014 and 2015, and are now adopting these approaches in all of their new and existing schools that historically used more traditional instructional approaches.. What distinguishes Summit's leaders is their bold willingness to totally redesign their school and continue changing in order to help students achieve lasting success.

#### Whittemore Park Middle School

Personalized learning isn't just for charter school students. At a public school surrounded by neglected buildings, public housing, and gang activity, and in a state with one of the nation's lowest high school graduation rates, something incredible is happening.

When 6th graders arrived at Whittemore Park Middle School in Conway, S.C., in fall 2013, they found themselves at a transformed 6th- to 8th-grade school that provided personalized learning experiences for students. Instead of receiving instruction from a teacher at a chalkboard in a traditional classroom, students are at the center of their own educational experience.

Whittemore Park is the lowest-performing school in the Horry County School District. Most students are low-income and are among those traditionally least likely to graduate college- and careerready. The district gave Whittemore Park Principal Judy Beard broad discretion to work with her leadership team and teachers to rethink what their school would look like and how it might operate. After exploring different options, they embraced personalized learning.

With encouragement from the district and a startup grant from the Gates foundation's Next Generation Learning Challenges, Whittemore Park is implementing a new instructional model called iCAN (Individualized, College and career readiness, Aspirations of students, and Network of support). Its goal is to provide students an unprecedented level of personalization, preparing each student to graduate on time, college- and career-ready.

They're redesigning the school using a competency-based approach to learning, where students take a personalized set of classes based not on traditional grade levels but on skill level. For example, students aren't 6th graders anymore — they are "first years." Students follow their own schedules, receiving the majority of their lessons digitally. Teachers work with students to develop and execute learning plans carefully designed to meet them wherever they are, interact with students in small groups, and use data from assessment tools to gain a deeper understanding of each student's individual abilities and needs. They are aided by support staff and empowered by technology to better tailor their instruction and reach each student on a more meaningful level.

Whittemore Park students meet daily with their assigned iCAN Academy Groups — cohorts of classmates who receive academic and social support together and benefit from weekly advising, biweekly mentoring, and other elements of a holistic education. They also take exploratory courses in topics ranging from robotics to choral music that are designed to nurture students' individual interests and talents.

The new model breaks down traditional school walls, allowing students to access digital content and lessons online so they can learn anytime, anywhere. For a generation that spends most of its time on mobile phones, this makes a lot of sense.

Through an extensive network of support and professional development, teachers receive the same benefits of personalization and feedback. The school is working with external partners who offer additional expertise and insight, including local higher education institutions and digital content providers who will help ensure students receive quality digital instruction that works for them.

Whittemore Park is demonstrating how schools, with district support, can advance personalized learning. What makes this school particularly exciting and inspiring is the willingness of its teachers to not just settle for tinkering at the margins but to innovate and rethink the entire design in service of students.

### New York City iZone 360

In a community defined by diversity, New York City school officials understand that personalizing education could have a big effect on student achievement. In 2010, the city launched the Innovation Zone (iZone), a districtwide effort to support and encourage schools to combine technology-based and teacher instruction to promote student-centered learning. The initiative started with 81 charter and traditional schools throughout New York's five boroughs and is on course to reach 400 schools this year.

Part of this effort is called iZone360, and it's the front line for full-scale blended learning experimentation. iZone360 schools have the chance to redesign themselves around personalizing learning so students can progress at their own pace. A series of design and planning events, along with continuous support and guidance offered by the program, help educators build a new model for their participating school (New York City Department of Education, n.d.). The district is encouraging schools to toss out the rule book and rethink every aspect of what makes a school effective, including budgets, staff, spaces, schedules, instruction methods, and technology.

For example, the New Design High School offers teachers extra pay to come up with new practices to test in the classroom. In response, instructors have developed a one-on-one coaching project where teachers help students establish and pursue goals. The school has adopted an online dashboard to document and critique lesson plans and give students instant feedback. Student projects mix in-class assignments with online components (Cromidas, 2011). All of these strategies are monitored and evaluated, and those that show promise can be adopted by other schools looking to try something new.

At Brooklyn High School of the Arts (BHSA) the first arts school accepted into the iZone360 program — educators use technology to engage their arts-focused students in academic coursework and enhance the flow of teaching. For example, in drama courses, students write plays based on filmed interviews with family members and acquaintances recalling major historical events.

Beyond technological engagement and innovative coursework, the arts-focused school's iZone360 experimentation extends to their list of courses. The school also uses Skype to offer more classes by having teachers from different schools teach via videoconference. Additional language and Advanced Placement courses are also offered online. The school's goal is to move toward a blended, rigorous, and personalized curriculum, which engages students'



artistic talents and interests and pushes them academically.

The iZone opens the door to pioneering teaching practices that can be tested and improved based on immediate results. Teachers and school leaders have the autonomy to design new approaches to personalized learning and also build partnerships with external experts to provide additional expertise and support. As one New Design High science teacher said, "It's about making a mess, trying new things" (Cromidas, 2011).

What makes the iZone so powerful is that the city itself is supporting a culture of innovation that empowers schools to let go of old ways that don't work and find something that does.

## Conclusion

Promising examples are important and exciting. But because students' lifelong opportunities are at stake, innovations in personalized learning must be held to a high standard of evidence about what works and what doesn't. With Gates foundation support, the RAND Corporation is addressing five research questions in a multiyear study that currently includes more than 40 personalized learning schools with additional schools joining each year:

- How do students attending the schools perform on measures of academic achievement?
- How do the schools compare to more traditional schools?
- What are the defining characteristics of the schools, including the use of technologies, roles of teachers, experiences of individual students, and approaches to student progression?
- How are school characteristics, such as pedagogical approaches and particular learning technologies, related to academic outcomes?
- How do students attending the schools perform on measures of broader cognitive skills such as nonroutine problem solving and critical thinking, and on measures of interpersonal and intrapersonal skills and attitudes?

The study includes student-level learning outcomes as well as school-level attendance, behavior, persistence, and graduation rates relative to matched comparison groups. Student surveys will be used to examine students' interpersonal and intrapersonal skills and attitudes. Over the next few years this study will generate rich information about personalized learning schools.

In the meantime, we're seeing early evidence that personalized learning approaches have the potential to not only accelerate student learning but also to give young people the skills to navigate their own learning. Less than a month into Summit's personalized learning pilot, a young man raised his hand and said to his teacher, "I think I'm behind." Based on this student's transcript and records, he had been behind his entire academic career. And yet, like many students, he had not fully grasped just how behind he was. In a traditional classroom setting a student may feel as though he's making progress because everyone around him is progressing. The forward movement required in group instruction can obscure an individual's struggles.

Now, for the first time in his life, when given control over his own learning and told to choose his own goals and complete his own assessments, this young man finally saw that he wasn't moving forward *and* the consequences of his poor performance. He then felt empowered to raise his hand, ask for help, and start taking ownership of his own learning.

This is the power of students owning their own learning, which has implications far beyond the graduation stage. Today's students will create the jobs of tomorrow. They must be prepared to master core math and literacy skills, learn new material, and demonstrate their knowledge in an environment that will prize resourcefulness and innovation. This is what it means to prepare today's young people for tomorrow's challenges. Personalized learning has the potential to prepare all students to pursue their passions and achieve their dreams.

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