A Better Blend

A Vision for Boosting Student Outcomes with Digital Learning

BY PUBLIC IMPACT

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Executive Summary

Blended learning that combines digital instruction with live, accountable teachers holds unique promise to improve student outcomes dramatically. Schools will not realize this promise at large scale with technology improvements alone, though, or with technology and today's typical teaching roles. In this brief, we explain how schools can use blended learning to encourage improvements in digital instruction, transform teaching into a highly paid, opportunity-rich career that extends the reach of excellent teachers to all students and teaching peers, and improve student learning at large scale. We call this **a "better blend": combining *high-quality digital learning* and *excellent teaching*.**

Schools can immediately pursue a better blend at small scale. To achieve excellent learning at scale, state policymakers must **change state policy to enable and incentivize a better blend** in large numbers of schools. These policies must address **five categories: funding, people, accountability** for learning, **technology and student data**, and **timing and scalability.**

"Technology alone isn't going to improve student achievement. The best combination is great teachers working with technology to engage students in the pursuit of the learning they need."
—U.S. Secretary of Education Arne Duncan

The Promise of Blended Learning . . .

The potential of blended learning to improve student achievement is twofold. First is the power of digital instruction to **personalize learning**. Even as instruction becomes aligned to college- and career-ready standards, digital learning can become increasingly student-driven, individually tailored to provide the variety of paths and paces students need to achieve ambitious goals, and informed by adaptable technology and assessment data. The potential of digital instruction is enormous: In its next generation, it will likely become increasingly emotionally connective for students and provide students and their teachers with enhanced diagnostics and instructional roadmaps. These improvements will enable the consistent instructional differentiation and high standards for student learning advancement that today typify only the most excellent teachers and schools, while saving teachers' time for more engaging aspects of teaching.

The second benefit comes in blended models' capacity to let schools reach more students with **excellent teachers** who ensure that students achieve ambitious, personally fulfilling goals. Today's excellent teachers — approximately the top 25 percent — already produce about a year and a half of learning progress annually, on average. This level of growth is essential for closing achievement gaps and helping average students leap ahead to higher standards. In the future, when technology makes the basics of learning available to all students globally, complex aspects of excellent teaching will become even more important: guiding students' selection of ambitious and engaging work, fostering student motivation, addressing the myriad learning barriers many students experience, and cultivating higher-order thinking. And blended learning enables teaching teams that let teachers focus on their strengths and improve collaboratively. New school models can reach *every* student with teaching excellence by combining digital learning, specialization, and teacher-leadership.[1]

. . . Is Not a Guarantee

Technology in our classrooms is nothing new. At various points in the past century, leaders have hyped new technologies in schools, which have generally failed to meet the lofty expectations. Even blended models and other recent digital-learning initiatives have yielded mixed results. Other promising, recent reforms have shown that a lack of focus on teacher quality typically leads to disappointment. Reforms successful at small scale are driven by capable leaders or leadership teams, but school leadership remains the greatest bottleneck for successful replication and scale of successful programs. Little evidence to date suggests that blended learning will prove an exception. Instead, today's blended models will likely fall short unless they include excellent teachers playing instructional and team leadership roles that maximize technology's impact in tandem with their own. Schools must rethink the one-teacher-one-classroom structure while adopting blended learning, to make the best use of everyone's time and talents. The teacher collaboration, development, and leadership time that digital learning allows are critical to achieving excellence by far more teachers and their students.

> By redesigning roles and using technology, schools could give *all* students access to excellent teachers—not in 10 years, but right now.

How Schools and Policymakers Can Create a Better Blend

For a better blend of technology and teachers, schools must first focus on **implementation to combine excellent technology and teaching**. They must find and use the best available digital tools while also dramatically increasing students' access to excellent teachers. It would be easy to move toward blended learning while leaving students' access to great teachers exactly as it is today. Instead, schools should shift to blended learning while enhancing teaching effectiveness, through:

- **Selectivity:** Hiring selectively based on indicators predictive of outstanding teaching
- **Reach:** Extending the reach of excellent teachers to more students, directly and through team leadership
- **Freed time:** Scheduling to give teachers time to collaborate, develop, and analyze student learning data during school hours
- **Accountability:** Giving excellent teachers credit and accountability for the growth of all students under their purview, including those taught by the teachers on teams that they lead
- **Authority:** Vesting excellent teachers with control of the digital content they use, allowing them to continuously drive improvements in instructional materials in ways never possible previously
- **Rewards:** Investing savings in paying teachers far more for achieving excellence with more students, making stronger recruitment and enhanced selectivity possible.

Then, to achieve excellent learning at scale, state policymakers must **change state policy to enable and incentivize a better blend** in *large numbers of schools*, through:

- **Funding** that is flexible and weighted by student need, so that schools may invest in the people and technology that best advance their students' learning
- **People** policies that let schools hire, develop, deploy, pay, advance, and retain excellent teachers and collaborative teaching teams to reach every student with excellent teachers
- **Accountability,** using increasingly better measures, that drives teaching and technology excellence and improvement, so that excellent teachers and their teams get credit for using blended learning to help more students, and schools have powerful incentives for a *better* blend
- **Technology and student data** that are available for all students, allowing differentiated instruction for all students without regard to their economic circumstances
- **Timing and scalability,** including implementing a better blend from the start in new and turnaround-attempt schools — when schools often have more freedoms to implement new staffing models that do not over-rely on the limited supply of outstanding school leaders. This also includes helping new schools develop systems for scale, and giving excellent new schools incentives to grow.

Digital learning may be life-changing for students and career-boosting for teachers, but only if schools and policymakers commit to a better blend.

With all of these ingredients, a better blend becomes easier to picture. Imagine a 24-classroom school with six excellent teachers and a lot of good, solid ones. The school's six excellent teachers take responsibility not just for six classrooms, but for *all* classrooms. Some do so by reaching more students directly, working with one group of students while others learn digitally, and then swapping. Others do so by leading collaborative teams of teachers who teach a whole grade or a multi-grade group of classrooms. With students spending age-appropriate amounts of time each week (as little as an hour daily) in digital instruction supervised by trained paraprofessionals, teacher-leaders have time to co-teach with their team members, assign roles that use teachers' strengths, provide peer development, review student data from digital learning software, and plan for what's next. The team has time to meet daily, during the school day, to analyze data, make plans, and help one another improve. With this approach, the school needs slightly fewer teachers overall. It uses the savings to cover the cost of digital learning, but also to pay excellent teachers *substantially* more — and all teachers more than current salaries. As a result, recruiting and retaining great teachers becomes much easier. That's a better blend.

Introduction

Our country's success in the increasingly technology-driven, global economy will depend on how we prepare today's students for tomorrow's jobs, and for personal fulfillment and civic engagement in an interconnected world.

These days it is ever more important to set clear, ambitious goals for pre-K–12 education to generate high student growth and develop students' higher-order thinking skills. But goals alone will not set our students up for success. Students' learning needs are shaped by family supports and personal characteristics such as past achievement, self-motivation, learning preferences, time management, and emotional stability. Even the best one-size-fits-all teaching methods do not meet the diverse needs that teachers encounter in classrooms. Our nation's educational challenge, then, is to maintain ambitious goals for all while helping each student find a path to meet them.

The rise of digital learning presents a unique opportunity to meet this challenge. It has unprecedented potential to help achieve ambitious goals by enabling personalized paths to learning success.

Even in the digital age, the vast majority of U.S. students will probably attend brick-and-mortar schools — partly because many parents rely on their children being at school while they work, and because schools act as connective fabric for communities. As a result, most students will experience digital learning as part of "blended learning": a combination of digital instruction and in-person teaching.[2]

In this brief, we explain how blended learning can succeed by bringing the best available **technology** to students under the guidance of **excellent teachers**, organized in new school models that change roles and schedules for optimal teaching and learning. When schools achieve this "better blend" of high-quality digital learning and excellent teaching, they can realize blended learning's great potential to dramatically improve student outcomes.

The Dual Potential of Blended Learning

Blended learning's potential to improve student achievement is twofold: It promises highly personalized and varied educational opportunities, and it permits schools to increase the impact of excellent teaching.

"Blended-learning programs can let students learn at their own pace, use preferred learning modalities, and receive frequent and timely feedback on their performance for a far higher quality learning experience."
—Michael B. Horn and Heather Staker, Innosight Institute

Blended Learning and the Power to Personalize

With digital learning and the help of supportive adults working as teachers, standard-setters, and guides, students can better control the nature and pace of their own learning through adaptable technology and data about their learning mastery. They can spend the time they need to master material, and expand their access to resources beyond what their schools can offer in person.[3]

Students can select from a menu of learning experiences. Blended schools can offer students "all-you-can-eat learning," with an extensive menu of course topics and learning methods. They are not limited by the subject-matter expertise or teaching methods of their in-person teachers. Instead, students can expand their course catalogs with digital alternatives and choose how they engage with the material. Given the numerous alternatives, student learning is limited mainly by time and an individual student's hunger for knowledge. The very act of choosing among learning options may increase student ownership and motivation.[4] As the Charter School Growth Fund's Alex Hernandez wrote: "Students who 'own' their learning speak and act differently about their education. They know what they are trying to get out of every lesson, are motivated to do it, and are critical thinkers about the methods used to get there."[5] Although student ownership alone is unlikely to propel all students to reach their potential, the self-driven nature of digital learning holds promise for boosting student engagement.

Students set the tempo for their own learning. More than students in typical classrooms, students in blended-learning environments can set the pace of their education, with adult support. Once they have achieved mastery, students can continue on to new topics or more challenging problems, instead of waiting on their peers. Teachers can spend more time with struggling students, giving them highly targeted support and helping boost their confidence and motivation.[6] In schools adopting flexible hours, students can work during their own peak learning times, or on schedules that accommodate personal or family commitments.[7] Even students who relocate midyear may be able to continue "attending" digital courses, with their new in-person teachers completing the blend.

Adaptable technology and data enables an individualized blended-learning experience. Digital offerings have the potential to generate a constant flow of data that helps teachers and students monitor progress. Advanced software "learns" from this data as well, adjust-

ing students' tasks based on their performance. Embedded assessments and "dashboards" summarizing students' progress allow rapid adjustment and response to student needs.[8] Software continues to improve, as data generates insights developers can use to build upon current digital offerings.[9]

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—Alex Hernandez, Charter School Growth Fund

Teachers in blended schools monitor and manage student learning. Although students in blended schools have more control over the pace and content of their learning, and technology plays a more significant part in instructional delivery, teachers continue to set ambitious standards for learning pace and depth and help students tackle challenges.

Teachers can spend less time assessing students and more time *teaching* when they use the new digitally generated flow of data to develop a deep understanding of their students' progress and mastery. In blended models, teachers can become data analyzers and users rather than mere collectors.[10] Thus teachers can focus more attention on struggling students in the specific areas where they are falling behind, and on *all* students in ways that meet their individual learning needs.

As technology improves, teachers may spend less time designing lessons and more time creating learning paths or "playlists" of learning activities selected for their high quality and their fit with individual students' needs.[11] In the technology-enabled classrooms of the future, excellent teaching will be differentiated by highly complex instructional tasks, including:

- Guiding students' selection of appropriate content and delivery tailored to their strengths and needs;
- Developing students' self-motivation to work toward ambitious goals;
- Effectively addressing learning barriers — such as time-management skills, emotional disruptions, and social pressures that affect learning even among advantaged children; and
- Building students' higher-order skills — such as analytical, conceptual, and creative thinking, especially as applied to solving real-world problems.[12]

Blended Learning and the Ability to Leverage Teaching Excellence

In addition to helping teachers more actively use student data, blended learning can free excellent teachers' time to take responsibility for more students — directly, or by leading teacher teams.[13] In models that extend the reach of excellent teachers in these ways, less-accomplished teachers will be able to spend more time learning from the best and developing their own excellence.[14]

All students need excellent teaching. A growing body of research shows just how essential great teachers are to closing achievement gaps and helping students leap ahead. Students taught by the top 25 percent of teachers produce 1.5 years of learning annually — three times the progress of students taught by teachers in the bottom quartile.[15] All students need excellent teachers consistently: Students who are behind need excellent teachers to catch up, and those at grade level need excellent teachers to move further ahead. Evidence suggests that

teachers who produce these outstanding results in reading and math also excel at helping students develop higher-order thinking skills.[16]

One hallmark of excellent teachers' practice is personalizing learning for their students. Maria Montessori's individual choice methods and Carol Ann Tomlinson's work on differentiation are two examples of how, over time, teachers have remained the best conduits through which students experienced personalized learning.

Schools' current best efforts to recruit and retain talent, however, will not be enough to put an excellent teacher in every classroom. In most schools today, only about a quarter of teachers produce enough progress to close achievement gaps and help average students leap ahead to honors work. Yet these excellent teachers reach the same number of students as the worst teachers. As a result, no more than a quarter of students have access to the gap-closing, life-changing instruction they need to succeed.[17]

Blended learning can give more students access to excellent teaching. Blended learning has the potential to help change that statistic. By redesigning schedules and using technology, schools can use blended learning to extend the reach of excellent teachers to more students. Blended learning can enable a "time-technology swap" in which students engage in digital learning for part of the day, freeing excellent teachers' time to teach more students and expand their impact beyond what traditional roles and schedules allow.[18] If schools arrange schedules correctly, as little as an hour of digital instruction daily in elementary school and two hours daily in secondary school would allow far more students to have excellent teachers in all four core subjects. Fewer students would have truly ineffective teachers.[19]

Through live, remote instruction, technology can also bring great teaching to urban schools and hard-to-reach rural schools that have too few top teachers. Excellent teachers are already creating digital recordings, materials, and software, with no limit on the number of students they can reach.[20] Such strategies mean the top 25 percent of teachers can reach far more than 25 percent of students.[21]

Blended learning creates new opportunities — for *all* teachers. By saving all teachers time, blended-learning models can increase the number of hours teachers have to plan, develop their craft, and collaborate with their colleagues during the school day. With added time to work in teams, good teachers have more time to learn from great ones, while excellent teachers have the opportunity to increase their impact by directly influencing the instruction of all of the students taught by the teams they lead.[22]

Collaborative staffing models can make the profession more sustainable by matching what teachers do every day with their areas of greatest strength and deepest passion. In blended models, excellent teachers might use data from digital-learning software to design and take on the most difficult teaching tasks, such as working with students who need extreme differentiation, while other teachers also play to their strengths.[23] Teacher-leaders can observe not just which teachers are excellent, but in which roles or subject-matter areas each teacher's excellence appears — permitting them to tailor duties to teacher strengths and student needs.

Technology may also provide more flexibility in teachers' schedules and create career paths that respect teachers as professionals, allowing them to work more flexible hours,

"Technology can be a 'force-multiplier' for teachers, permitting them to reach more students than ever before."
—Former West Virginia Gov. Bob Wise, Alliance for Excellent Education

"As online programs capture student achievement data in real-time across the school, teachers can spend more time helping personalize learning for students."
—Michael B. Horn and Heather Staker, Innosight Institute

work remotely, or teach part-time in appropriate circumstances — all of which might help keep excellent teachers in the classroom.[24]

The Ingredients for a Better Blend: Great Digital Learning and Excellent Teaching

Students can reap great benefits from the personalization, flexibility, and use of data that great digital content enables. But no technology can replace the teacher as the leader of consistently excellent student learning outcomes in blended environments. Excellent teachers help students make smart choices regarding content and pace. They facilitate connections between students and their learning. They deliver high-quality instruction. And they motivate students to work toward ambitious goals in appropriate, engaging ways, and overcome the inevitable barriers they will face.

Teachers will continue to vary widely in their ability to play these roles, even as technology becomes more prominent. Technology has transformed many other professions in the past several decades, improving productivity and the quality of products and services. But research on managerial and professional employees still shows wide variation in their effectiveness — variation that is strikingly similar to what we see among teachers today.[25] In fact, a teacher's effectiveness may actually have *more* impact on student results in the digital age. As digital learning levels the global playing field for covering the basics, teachers' capability to handle the more complex instructional tasks will increasingly differentiate outcomes for students. "The best combination," U.S. Secretary of Education Arne Duncan has said, "is great teachers working with technology to engage students in the pursuit of the learning they need."[26] Blended learning can encourage schools to rethink time, teaching roles, and technology to give all students access to excellent teachers — not in 10 years, but right now.[27]

> As digital learning levels the global playing field for covering the basics, how well teachers handle the more complex instructional and noninstructional tasks will increasingly differentiate outcomes for students.

The Promise of Blended Learning is Not a Guarantee

School systems have been investing in new technologies for more than a century, with great hope for dramatic impacts on student learning.[28] But the promised benefits have generally failed to materialize. Why should we expect that today's technologies will lead to a different result? We shouldn't, unless those technologies are paired with excellent teachers playing roles that maximize technology's impact in tandem with their own.

Blended models have yielded mixed results. Some well-known early movers in blended learning have acted as "proof points," showing that schools implementing blended models can produce strong, gap-closing results.[29] For instance, students at Rocketship Education — a K–5 charter network started in California, in which 90 percent of students come from low-income households — scored on par with students from the most affluent school districts in the state.[30] KIPP Empower Academy in Los Angeles, which also serves a low-income student population, has also shown encouraging results. More than 90 percent of the school's students perform at or above the national average on nationally norm-referenced exams.[31] Rocketship and KIPP Empower are just two of many examples of high-performing blended schools. Others are emerging from coast to coast, in charters and district schools, at all grade levels, and using a variety of blended models.

However, not all blended schools achieve strong results.[32] For instance, a summer-school pilot program that compared a "control" classroom of students who received a traditional five-week algebra curriculum with a "treatment" group that engaged with the same material through blended learning found a small but insignificant benefit for students in the blended class. And lackluster early results from some full-time online schools further highlight that the digital delivery of learning alone is no silver bullet.[33]

> Digital learning cannot "teacher-proof" education. No reform can.

Other promising reforms, which failed to focus on teacher quality, proved disappointing. It is easy to get excited about the potential of digital learning to personalize instruction and give students more control — and tempting to believe that this means great teachers may no longer play central roles. This is not the first time reformers have attempted to "teacher-proof" education. In each case, great new instructional models or interventions were supposed to make schools achieve great results whatever the quality of their teachers. Despite hype and significant investments, such reforms have not generally led to the promised transformations in student achievement.

For example, "comprehensive school reform" in the 1990s tried to develop and scale up approaches to instructional design and school organization. After teams created and tested a host of new school designs, substantial federal and philanthropic funding flowed to help the teams scale them up to reach large numbers of schools. Though some of the designs, such as Success for All, achieved strong results, the effort's record was decidedly mixed, according to research by organizations such as the RAND Corporation.[34]

Or consider the nation's experience with charter schools. More than two decades into the charter sector's existence, there are many examples of high-performing charter schools and networks, but the sector as a whole has been dogged by uneven quality. A 2009 study from the Center for Research on Education Outcomes (CREDO) has been cited frequently for finding that only 17 percent of charter schools outperform comparable district schools.[35] A 2013 CREDO report looked at the performance of charter management organizations running networks of charter schools, again finding substantial variability in results.[36] Although many researchers and thought leaders have challenged aspects of the CREDO studies, few would dispute the mixed results in the charter sector.

Blended learning may be headed for a similar fate, with a small number of great exemplars, a lot of middling efforts, and plenty of duds. The strongest opportunity to avoid the path of past reforms is to make quality a central focus of the systems and policies that support blended learning.

Brewing a Better Blend

The preceding sections have explained that blended learning needs the highest-quality digital tools and the best teachers to realize its promise, and yet a major question remains: How do we get there from here? We see two critical areas of focus. First, school organizations putting blended learning into action need to focus intently on **implementing a better blend.** Second, state leaders need to make **major changes to state policy** to enable and incentivize a better blend across their schools.

Among the many challenges facing the implementation of blended learning, practitioners widely agree that digital tools must improve to achieve student engagement, personalization for all students, ease of use for educators, customizability, true alignment with state standards, and integration with other online and offline content (see sidebar, "Great Digital Instruction").

Numerous organizations have begun to analyze the challenges of implementing blended learning well and offer advice for schools. For example, in 2013 Digital Learning Now! published the *Blended Learning Implementation Guide*, with plans to update it regularly.[37] This and other publications discuss a wide range of issues facing implementers, including platforms and content, hardware, and funding.

> As technology advances, students will still need accountable adults taking responsibility for their learning. The excellence of the teacher-in-charge will have the same enhancing and mitigating effect on digital learning as it has on every other reform tried to date.

Here, we focus on a specific, high-priority implementation challenge: making the shift to blended learning in a way that dramatically increases students' access to excellent teachers. Without a clear focus on that aim, implementers are unlikely to brew a better blend.

GREAT DIGITAL INSTRUCTION

As part of Public Impact's Opportunity Culture initiative, we have spotlighted seven characteristics of great digital instruction, all of which allow digital instruction to save teachers time that they can reinvest in deeper learning, differentiated in-person instruction, and team collaboration:

- **Alignment:** Aligns units of instruction with the school's curriculum, below and above grade-level standards;
- **Advancement:** Allows advancement at a personalized pace, with students able to autonomously advance or repeat lessons until a topic is mastered;
- **Assessment:** Includes frequent assessment of mastery and reports of individual and group learning trends that teachers can use to monitor student learning and inform instruction;
- **Advice:** Recommends next instructional steps for each student and groups of students, including in-person and digital follow-up;
- **Accessibility:** Accessible to all students, who need software, hardware, and Internet connections;
- **Application:** Includes analytical, creative, and conceptual thinking units to apply knowledge and skills; and
- **Accountability:** Monitors digital instruction effectiveness with different students and makes changes or prompts teachers when changes are needed.

Students' ages, the quality of digital content, teachers' student loads, administrative feasibility, technology, and facilities may impose limits in certain circumstances.[38]

It would be easy to move toward blended learning while leaving students' access to great teachers exactly as it is today. An elementary school with 24 classrooms, for example, could maintain these classrooms just as they are, adding banks of computers to the back of each room to enable digital learning. But if this is an average U.S. school, six of these classrooms have teachers whose students are making well under today's year's worth of growth. Twelve of the classrooms can expect a year's growth on average, but that will not close achievement gaps and help middling students leap ahead. Only about six of those classrooms will have teachers who achieve the well-over-a-year's-worth-of-growth that students need in today's world. Adding digital learning may help, but it won't alone change this underlying reality.

What if, instead, the school used blended learning to simultaneously expand access to excellent teachers, by adding these ingredients to the mix:

1. Selectivity
2. Extended reach
3. Freed time
4. Accountability
5. Authority
6. Rewards

The table on pages 13 and 14 shows how each lever could make the difference between just a blend and a *better* blend.

With all of these ingredients, a better blend becomes easier to imagine. Picture that same 24-classroom school. Its six excellent teachers now take responsibility not just for six classrooms, but for all classrooms. Some do so by reaching more students directly, working with one group of students while others learn digitally, and then swapping. Others do so by leading collaborative teams of teachers who teach a whole grade level or a multigrade group of classrooms. With students spending age-appropriate amounts of time each week in digital instruction (as little as an hour daily) supervised by trained paraprofessionals, teacher-leaders have time to co-teach with their team members, assign roles that use teachers' strengths, provide peer development, review student data from digital learning software, and plan what's next. The team has time to meet daily, during the school day, to analyze data, make plans, and help one another improve. With this approach, the school needs slightly fewer teachers overall. It uses the savings to cover the cost of digital learning, but also to pay excellent teachers substantially more and all teachers somewhat more. As a result, recruiting and retaining great teachers becomes much easier. That's a better blend.

"Blended learning is a team sport—teams will be differentiated and distributed—and working conditions and earning potential for learning professionals will improve."
—Tom Vander Ark, Getting Smart

Ingredients for Enhancing Teaching Effectiveness	Blended Learning Implemented *Without* Enhancing Teaching Effectiveness	Blended Learning *Combined with* Enhancing Teaching Effectiveness
Selectivity	Implement blended learning with current teaching staffs (as many schools do now), or with fewer teachers, with cuts made based on "last in, first out" policies or other quality-blind measures. Schools would see the direct benefits provided by new digital content, but students would experience the same mix of teacher effectiveness they do now.	Use the opportunity blended learning presents to "shift the curve" of teacher effectiveness, through selective hiring. As teachers leave schools through natural attrition, schools can refrain from hiring replacements for low performers who leave, and become much more selective in hiring, enabling students to have much better teachers, on average, year after year. Such efforts would bring schools up to par with hiring practices in top-performing countries, which typically have highly selective admissions into teacher preparation programs, and rigorous training and hiring standards.[39]
Extended Reach	Implement blended learning with the same number of teachers, distributed as they are now — a system that typically results in the top teachers reaching the same number of students as the least effective teachers. Digital learning enables smaller group sizes and different time allocations within classrooms, but excellent teachers would still reach the same number of students they do now. The same number of students would have the school's least effective teachers as well.	Use digital learning specifically to extend the reach of excellent teachers so more students benefit from their highly effective instruction. When students spend time in age-appropriate amounts of digital learning, teachers can teach other students, increasing their reach by 33 percent or more. When elementary teachers also specialize in their best subjects or roles, they can reach 2 to 4 times as many students as they do today. Or they can spend the saved time leading teams of other teachers, extending their reach even more. All of these models distribute leadership and drive for excellence to teachers, reducing the reliance on the limited supply of superstar school leaders. For more examples of models and other resources that can enable schools to extend the reach of excellent teachers to more students, for more pay, within budget, see www.OpportunityCulture.org.
Freed Time	Add digital learning within current schedules, making no changes to the amount of time available to teachers for collaboration, planning, and professional development.	Rethink scheduling within new, blended models. The time students are spending on digital learning can be used, in part, to enable teachers to develop, collaborate, and plan. And schedule shifts can make teachers more effective by giving them time to analyze the increasing amounts of data available in blended models, using the data to inform instruction. All teachers can produce excellence as part of a team and gain opportunities for job-embedded development under the guidance of their excellent peers.

Ingredients for Enhancing Teaching Effectiveness	Blended Learning Implemented *Without* Enhancing Teaching Effectiveness	Blended Learning *Combined with* Enhancing Teaching Effectiveness
Accountability	Integrate blended learning into instructional models without altering which teachers are accountable for student performance.	Rethink staffing models to put excellent teachers in charge of more students' learning, increasing excellent teachers' reach in part through leadership roles that give them direct credit and accountability for the growth of all students taught by the teachers they lead.
Authority	Treat digital products like textbooks, with long-term licenses purchased at the district or even state level.	Vest great teachers with the authority to choose and change digital products based on their experiences in the classroom. Give fully accountable teachers a portion of the school's materials and technology budget to select what will work best for their students. Teacher-level control of the digital content used in classrooms would lead to digital solutions more closely tailored to student and teacher needs, and would foster a marketplace in which excellent teachers drive quality.
Rewards	Use any savings generated by blended models for increased investment in infrastructure or digital content, or cut funding for blended schools based on their anticipated ability to operate with less money.	Invest most or all savings in teachers by paying them more. Schools can pay all teachers more, and may offer even higher pay for excellent teachers who extend their reach further, including those who use multi-classroom leadership to help peers succeed. In either case, schools may reap benefits in the recruitment and retention of excellent teachers, further expanding student access to excellence.[40]

A Better Blend Policy Framework

Some school and district leaders can begin creating a better blend immediately. But achieving great outcomes at large scale, beyond early prototype schools, will require policy changes. Without them, digital instruction's prevalence will undoubtedly rise, but most schools will not achieve a "better blend" or excellent outcomes for their students. Digital instruction will not improve rapidly enough, and staffing changes will fail to extend excellent teachers' reach and improve the development and performance of all teachers. Excellent blended learning at large scale will be hampered by the same leadership bottlenecks that have limited the successful scaling of other reforms.

Some existing policies act as barriers to achieving a better blend. In other cases, the field needs new policies to guide it toward excellence. And in still others, new policies must motivate change.

> Achieving a "better blend" at large scale, beyond early prototype schools, will require policy change.

In our earlier work, *Seizing Opportunity at the Top*, we began to lay the policy groundwork for reaching more students with the outcomes that excellent teachers produce today.[41] Here, we add to that thinking with an explicit focus on blended-learning models.

FUNDING

☞ *Provide state funding, weighted by student need, for schools as fungible lump sums*, including funding for teacher pay, to enable optimal combinations of teachers, other staff, digital instruction, and other materials.[42] States face two funding issues: how money is allocated to schools, and how schools are required to spend that money. To encourage staffing and spending decisions that focus on outcomes, states should *allocate* money to schools based on the number and level of instructional challenge of their students. Schools should have far more flexibility to *spend* their money in ways

that reach more students with the best teachers and digital instruction, including digital purchases of whole subjects, single courses for one or more students, or instructional units. In contrast, old line-item budgets require a certain number of staff in restricted roles, preventing career advancement and higher pay within budget. States should not require schools to budget based on old one-teacher-one-classroom staffing patterns, average teacher pay, and the average cost of educating students.

- ☞ *Reduce onerous procurement policies*, textbook-use requirements, and multiyear vendor contracts that make it difficult for schools to acquire hardware and software or to change vendors as needed.
- ☞ *Create investment pools* that enable districts to cover start-up and transition costs to blended learning, to be repaid over multiple years out of savings. Make investments only in districts committing to policies in this list.

PEOPLE

- ☞ *Get selective about who teaches.* Follow the lead of top nations by limiting entering teachers to those who were strong students themselves and have the competencies to succeed as teachers in blended schools.
- ☞ *Revise licensure rules* to make excellent out-of-state teachers automatically eligible to teach.
- ☞ *Amend state teacher evaluation systems* to enable new models (such as teams and team-leaders serving multiple "classrooms" of students), while still assigning accountability. Enhance observation rubrics to reflect any new and different practices shown by research to be important in blended-learning environments.
- ☞ *Eliminate class-size limits for excellent teachers who choose to teach more students*; or, require average class-size limits across districts or schools, rather than absolute limits per classroom.
- ☞ *Eliminate or reduce "seat time" and "line of sight" requirements for students to be with licensed staff* that limit the use of digital labs and small-group instruction in different rooms. Instead, focus on student outcomes, enabling, for example, the use of paraprofessionals to monitor digital labs, which would free funds to pay teachers more for reaching more students successfully.
- ☞ *Amend statewide salary scales*, leaving districts and schools free to create new roles and pay excellent teachers far more when they use blended learning (or other means) to reach more students, within available budgets.
- ☞ *Incentivize* the use of savings to pay teachers more within budget, providing strong inducements for schools and districts to attract and retain excellent teachers who get great results, rather than just cutting budgets. Most schools should be able to pay a minimum of 20 percent over standard pay scales, using the school models described on OpportunityCulture.org.
- ☞ *Grant absolute protection to excellent teachers during layoffs,* regardless of seniority, when new models require changing the staffing needed at a school. For example, guarantee protection to teachers who demonstrated excellence in the most recent year or in two of the past three years.

TECHNOLOGY AND DATA

- *Provide universal wireless broadband access* for all students and teachers, to enable digital instruction combined with teacher-led instruction.
- *Invest in data and instructional information systems* to facilitate school- and classroom-level monitoring of student progress and personalized instruction and intervention.
- *Participate in multistate data-interoperability efforts*; make data readily available across districts, states, and networks to fuel analytics that improve teaching and learning, aid with transitions caused by student mobility, and help states hold schools and providers accountable for their contributions to student learning.

ACCOUNTABILITY

- *Shift assessment and accountability systems* to focus on individual growth and mastery. Replace age-based, end-of-year-only testing with on-demand assessments. Keep expectations high with age-normed minimum standards that trigger additional support for students who need it. Allow students to work ahead by requiring multigrade continuums of standards and curricula that enable all-you-can-eat learning.
- *Require districts to identify highly effective teachers, using increasingly better measures, and report the percentage of students whose teacher of record is highly effective* (by district, school, and subgroup). Aligning accountability and reporting systems with "reach" goals gives excellent teachers credit for helping more students and peer teachers, and it provides a clear incentive for these teachers to rally for improvements in digital instruction.
- *Encourage a vibrant market of third-party providers of information* about the quality of digital products so teachers, schools, parents, and students can choose wisely.
- *Consider a new civil right* to create maximum will for a better blend. A new civil right created by a state might require, for example, that for any student who did not make at least a year's worth of growth in any designated subject in the previous school year, or who has not been assigned an excellent teacher in a designated subject during the prior two school years, the school or district must put a consistently excellent teacher in charge of that student's instruction.
- *Revamp finance systems to pay for student learning growth*. Pay schools or districts a premium for achieving higher student learning growth, weighted to pay even more for achieving growth with disadvantaged students.

"For the market to yield innovation and high performance, providers need to be rewarded for successful student outcomes, not just enrollments, and an independent agency . . . needs to be responsible for quickly shutting down low performers."
—Erin Dillon and Bill Tucker

TIMING AND SCALABILITY

New schools and ones attempting turnarounds may have permission to deviate from existing school models and can use this freedom to try a better blend. Especially in contexts where dramatic learning improvements are needed, schools can make excellent outcomes more immediate and scalable into more schools by using a better blend from the start. Merely adding technology in schools serving chronically failing student populations has not succeeded. In addition, both new schools and turnarounds of chronically failing schools

have been reliant on a very limited supply of great school leaders. By increasing the reach of excellent teachers and using technology wisely in the ways described here, these schools can reduce reliance on this limited supply.

- ☞ *Enable launch of schools using a "better blend."* Enact policies that allow high-potential or proven blended-learning operators to open new schools, under contract with districts or as charters (authorized by districts or others). Set a high bar for approval based on the better blend model.
- ☞ *Mandate that turnaround efforts put excellent teachers in charge.* When district-managed schools attempt turnarounds, insist that at least 75 percent of classrooms have *excellent* teachers accountable for learning. This will force new school models, in which the use of technology allows for team planning, collaboration, and development during school hours.
- ☞ *Ensure accountability and growth of the best.* Hold new and turnaround-attempt schools accountable for results. Close or replace ineffective operators, and replace leaders who do not achieve significant improvements. Allow successful models to replicate or grow fast, and give successful district-school leaders the chance to lead additional new or turnaround schools, for more pay.

Conclusion

With a better blend, the U.S. can capitalize on the great possibilities of digital learning. A better blend means combining ever-improving technology with new staffing models that give dramatically more students access to excellent teachers. A better blend can power changes in the teaching profession, transforming it into the highly paid, opportunity-rich career the nation needs it to be. And it can substantially boost the opportunities students have to learn and grow. To achieve that vision at scale, policymakers need to act, designing a wide range of policies to produce a better blend in schools across the country.

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