



A series of interactive papers that provides specific guidance regarding the adoption of higher standards and quality assessments focusing on the shift to personal digital learning.

2015

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BLENDED LEARNING IMPLEMENTATION GUIDE 3.0



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EXECUTIVE SUMMARY

In February 2013, co-authors from Digital Learning Now, Getting Smart, and The Learning Accelerator put their collective expertise and experience together and launched [The Blended Learning Implementation Guide: Version 1.0](#). We released the original version with an invitation to schools and districts to download the guide, take it back to their communities, put it to use, and let us know how to improve it.

After the release of the 2.0 version less than a year later, we have now updated the guide based on feedback from the field and updates in the sector, in order to launch **The Blended Learning Implementation Guide: Version 3.0**. It is our hope that the guide will continue to grow and evolve to serve the needs of anyone— from practitioners to policymakers—who has an interest in expanding student access to high quality educational opportunities with blended learning.

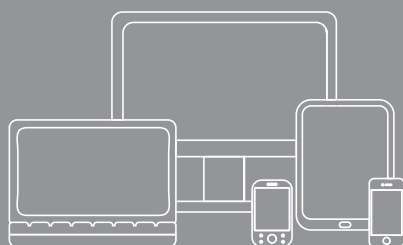
Blended learning is not just another district initiative. It is a fundamental redesign of instructional models with the goal of accelerating learning toward college and career readiness. It is a large-scale opportunity to develop schools that are more productive for students

and teachers by personalizing education, ensuring that the right resources and interventions reach the right students at the right time.

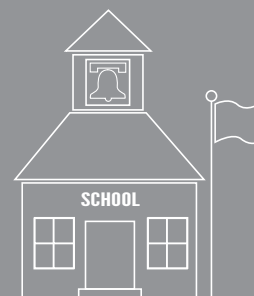
A set of case studies from FSG concluded, “Blended learning has arrived in K–12 education. Over the past few years, technology has grown to influence nearly every aspect of the U.S. education system.”¹ By the end of the decade, most U.S. schools will fully incorporate instructional technology into their structures and schedules. They will use predominantly digital instructional materials. The learning day and year will be transformed and extended. Learning will be more personalized, and the reach of effective teachers will be expanded.

Schools that make the most effective use of new technology will adopt a model of blended learning, defined by the [Clayton Christensen Institute for Disruptive Innovation](#) as “a formal education program in which a student learns at least in part through the online delivery of content and instruction, with some element of student control over time, place, path and/or pace,” and “at least in part at a supervised brick-and-mortar location away from home.”²

BLENDED LEARNING IS...



a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path, and/or pace



at least in part at a supervised brick-and-mortar location away from home

A shift to online delivery for a portion of the day to make students, teachers and schools more productive. Learning in multiple modalities yields more and better data that creates an integrated and customizable learning experience.

Blended learning means rethinking how class is structured, how time is used, and how limited resources are allocated. Compared to high-access environments, which simply provide devices for every student, blended learning includes an intentional shift to online instructional delivery for a portion of the day in order to boost learning and productivity. Productivity in this sense includes improvements to teacher access of data and its potential to inform instruction. Greater student productivity includes less time wasted on skills already mastered. Increased learning opportunities and improved student outcomes enhance overall system productivity. The introduction of online assessments acted as a good pivot point for the shift to digital instructional materials and blended learning models. In that paper, we offered the following advice to states and districts to help them seize the opportunities for better teaching and learning that the shift to online assessment creates. In [Getting Ready for Online Assessment](#), we offered the following advice to states and districts to help them seize the opportunities for better teaching and learning that the shift to online assessment created.

1. Match teaching and testing environments;
2. Shift to digital instructional materials;
3. Boost access;
4. Build a plan for the greater shift;
5. Support blends;
6. Boost broadband;
7. Invest in teaching training;
8. Learn from other states;
9. Use sample items from assessment developers; and
10. Use adaptive assessment.

This guide is for educational leaders who are ready to seize this opportunity and shift to blended learning. Implementing blended learning is a complex project that changes roles, structures, schedules, staffing patterns, and budgets. It requires frequent and online learning experiences for staff. Dedicated, competent program management staff members are required to link departments that haven't always worked closely together, manage budgets, identify issues, and facilitate a resolution process.

Our nation's schools stand at an important "inflection point" in the history of education. Taken together, the implementation of college and career ready standards, the shift to online assessments, the availability of affordable devices, and the growing number of high-quality digital instructional tools create an unprecedented opportunity to fundamentally shift the education system to personalize learning around the individual needs of every student.

This implementation guide is designed to help leaders create the conditions for success in planning, implementing, and evaluating their blended learning efforts. It is a version 3.0. The authors intend to capture and update best practices as more schools make the shift.

INTRODUCTION

Blended learning, according to the Clayton Christensen Institute for Disruptive Innovation is “a formal education program in which a student learns at least in part through online delivery of content and instruction with some element of student control over time, place, path and/or pace.”³ Blended learning is different from fully online learning environments, because students learn “at least in part at a supervised brick-and-mortar location away from home.” We add to that broad definition a statement of intent: Blended learning is a shift to an online delivery for a portion of the day to make students, teachers, and schools more productive, both academically and financially.

The [National Education Technology Plan](#) of 2010 acknowledged the challenges of raising college- and career-ready standards without a significant investment of new funding and what Secretary Duncan called “the new normal”—a need to achieve more with less. The aftermath of the Great Recession makes it unlikely that most states will significantly increase education spending, yet there is widespread

agreement that college and career readiness rates, particularly for low-income students, must increase.

In a [related speech](#), Secretary Duncan attacked the basic system architecture as “a century-old factory model—the wrong model for 21st century.” He recognized the potential for “transformational productivity” and the potential for technology to be a “force multiplier.”

Promising early results from initial adoptions of personalized learning technologies and blended learning models suggest that schools can be organized in ways that produce higher levels of achievement for students and improved working conditions for teachers. This guide is an effort to help schools, districts, and networks unlock the potential of blended learning by developing and executing effective plans. In fact, there are several rigorous studies validating the effectiveness of blended learning models raising student improvement.

10 DRIVERS OF BLENDED LEARNING













- | | | | | | | | | | |
|---|---|---|--|---|--|--|--|---|---|
|  | 1 Improve ability to personalize learning |  | 2 Potential for individual progress |  | 3 Improved student engagement and motivation |  | 4 Shift to online state tests starting in 2015 |  | 5 Need to extend time and stretch resources |
|  | 6 Potential to extend the reach of effective teachers |  | 7 Ability to improved working conditions |  | 8 Decreased device costs |  | 9 Student and parent adoption of learning apps |  | 10 Interest in narrowing the digital divide |

EXHIBIT: DEFINITIONS AND TERMINOLOGY

Terms such as “online learning,” “blended learning,” “personalized learning,” “customized learning,” and “competency-based learning” are flooding our educational dialogue, and they are often used interchangeably. The ideas are related, but they are not the same. It’s important to understand the differences.

Blended learning is “a formal education program in which a student learns at least in part through the online delivery of content and instruction, with some element of student control over time, place, path, and/or pace, and at least in part at a supervised brick-and-mortar location away from home” (Source: [Clayton Christensen Institute for Disruptive Innovation](#)). Compared to high-access environments, which simply provide devices for students, blended learning includes an intentional shift to online instructional delivery for a portion of the day in order to boost student, teacher, and school productivity. As [Opportunity Culture](#) outlines, that implies new school models, staffing structures, schedules, and resource allocation pattern. While 1 to 1 initiatives add computers to schools, blended learning changes everything.

Online learning is teacher-led education that takes place over the Internet using a web-based educational delivery system that includes software to provide a structured learning environment. The teacher and student are usually separated geographically, and classes may be delivered synchronously (communication in which participants interact in real time, such as online video) or asynchronously (communication separated by time, such as email or online discussion forums). It may be accessed from multiple settings (in school or out of school buildings) (Source: [Keeping Pace](#)).

Personalized learning is paced to student needs, tailored to learning preferences, and customized to the specific interests of different learners. Technology gives students opportunities to take ownership of their learning (Source: [National Education Technology Plan](#)).

Customized learning is informed by enhanced and expanded student data, which is applied to boost motivation and achievement, keeping more students on track for college and career readiness (see [Data Backpacks: Portable Records and Learner Profiles](#)). We use the term “customized learning” to refer to an expanded and enhanced version of personalization focused on individual student pathways driven by interests and best learning modalities. As adaptive learning becomes more sophisticated, learner profiles will be able to recommend experiences likely to result in learning and persistence.

Competency-based learning is a system of education, often referred to as proficiency or mastery based, in which students advance based on demonstration of mastery. Competencies include explicit, measurable, transferable learning objectives that empower students. Assessment is meaningful and serves as a positive learning experience for students. Students receive timely, differentiated support based on their individual learning needs. Learning outcomes include the application and creation of knowledge, along with the development of important skills and dispositions (Source: [CompetencyWorks](#)).

Digital learning, as used by [Digital Learning Now](#) and others, refers to all of the above—full and part time access to online and blended learning.

The blended learning intervention [Read180](#) has several studies that met the rigorous What Works Clearinghouse standards that found [positive effects on comprehension and general literacy achievement for adolescent learners](#). Another four-year U.S. Department of Education evaluation of adolescent literacy programs showed that students in Newark, N.J., Springfield/Chicopee, Mass., and the Ohio State Department of Youth Services who used Read180 also significantly outperformed [other students](#). A [U.S. Department of Education meta analysis](#) found that students in fully online post-secondary courses outperformed those in face-to-face courses, and those blended courses outperformed the fully online students.

In 2007, the U.S. Department of Education awarded a \$6 million grant to RAND Corporation to study the effectiveness of Carnegie Learning Curricula and Cognitive Tutor in a blended learning model.⁴ The initial findings, released in 2013, showed that students experienced an eight-percentile improvement over the control group in math scores in the second year of implementation. That jump equates to a 20 to 30 point improvement on the SAT math section. If the curriculum was applied and a similar increase resulted, the given school would see an improvement equivalent to moving from a “failing” status to an “average” rating.



Video: “What is Blended Learning” from The Learning Accelerator is publicly available on Vimeo.



STATE POLICY MATTERS

The [DLN Smart Series](#) is a collection of resources from Digital Learning Now and key partners that provides specific guidance regarding the adoption of higher standards and quality assessments focusing on the shift to personal digital learning. The papers are a great source of additional information on policy matters raised in this guide including competency education, school funding, student data, procurement, guidance systems and online learning myths.

State policy can accelerate reforms that support blended learning models or it can inhibit the adoption of these models. Relevant policies include support for online learning, teacher certification and seat-time requirements, and funding mechanisms. Policymakers need to ensure that these policies provide schools with the room to test innovative models that may collide with outdated policies.

In [A Better Blend: A Vision for Boosting Student Outcomes with Digital Learning](#), Public Impact explains how state policy changes could enable and incentivize better blended learning by combining high-quality digital learning and excellent teaching. The report identifies the following areas that state policymakers must address in order to enable and incentivize “a better blend”:⁵

- **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.

Digital Learning Now, a state policy framework, advocates for policies that advance high-quality blended and online learning.

| | |
|-----------------------------------|---|
| Most state policies | Digital Learning Now Policies |
| Print instructional materials | Predominantly digital materials |
| Seat time requirements | No seat time requirements |
| Only local options | Full-time & part-time access to online learning |
| Year end summative exams | On demand end-of-course exams |
| District funding | Weighted portable student funding |
| Limited device & broadband access | Ubiquitous device & broadband access |

- **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.

For example, many states have restrictive teacher certification requirements. Some have class-size restrictions that make it hard to use differentiated staffing strategies; others impose “line-of-sight” restrictions that inhibit teaming. These policies were designed for a teacher lecturing in front of a class, not blended learning environments in which students work on personalized lessons on computers, engage in small-group work, and receive more one-on-one time with teachers and paraprofessionals.

Many blended learning models promote competency-based learning, giving students the flexibility to earn credit when they can demonstrate that they have mastered the material. (This [clever comparison of competency education to Kung Fu](#) is a useful starting point for understanding mastery-based progressions.) However, most states have seat-time requirements

that keep individual students from moving ahead at their own pace. Instead, credit is awarded based not on mastery but simply on time spent in school. Year-end grade level testing may also pose challenges for competency-based environments by not providing students with multiple opportunities throughout the year to demonstrate mastery and advance to higher-level work.

Most states fund school districts rather than students—funding does not follow students to a potential portfolio of providers serving courses and other educational services. Funding in most states does not provide incentives that reward completion and achievement.

Another policy link is school improvement and accountability. It is often easiest to gain funding and flexibility (e.g., school improvement grants and waivers) for low-performing schools. However, building and executing a blended learning turnaround requires strong and experienced leadership.

ROOM TO GROW

In the broadest sense, any learning sequence that combines multiple modalities is blended. However, this guide considers a narrower definition that includes an intentional shift to an online environment for a portion of the day to boost learning and operational productivity. This is accomplished by creating a school experience that works better for students and teachers and ultimately yields increased learning opportunities and improved student outcomes.

Strategies that may be productive, but don't yet realize the full potential of blended learning include:

- Classrooms that have some computers with digital curricula.
- Teachers who are experimenting with flipped classroom strategies.
- Schools that have a computer lab for classes to use.
- Computer purchases that improve device access ratios.

These strategies may be beneficial, but if they do not change instructional practices, schedules, relationships, and resource allocations, they are not considered blended learning for the purposes of this guide.

Creating and supporting the opportunity for secondary students to take online courses (advanced, credit recovery, and options) is considered blended learning in this guide because it may require a new use of space, time, and resources. It also includes a shift in delivery that may be more productive for the student and the school.

THE IMPLEMENTATION GUIDE

The audience for this blended learning implementation guide is school, district, and network leaders ready to build and implement a blended learning plan. The guide will also be useful for state policymakers who want to gain an understanding of the transition schools will experience in the coming years.



Video: "Technology Revolution: Carpe Diem & Blended Learning" from EdNation

Footage from EdNation used with permission, available on the [Digital Learning Now Video Library](#)

BLENDED LEARNING IMPLEMENTATION DECISIONS



CREATING CONDITIONS FOR SUCCESS



The shift to blended learning is multifaceted. It requires a lot of support-building before and communication during implementation. If the shift to blended learning feels like “just another district initiative,” it is doomed to failure. This section discusses building support for a blended learning initiative and funding the shift.



DEFINING ACADEMIC GOALS

The difference between blended learning and just adding computers to the way schools have always operated is that there is a regular and intentional change in delivery to boost learning and leverage teacher talent.

To build support for a blended learning initiative, start by analyzing student data and tapping into staff knowledge about the student population to connect the shift to blended learning with overall district goals. Aim to improve college and career readiness by employing technology to create more personalized, deeper learning opportunities.

Before investing in devices, it is important to first define the educational vision and goals for digital learning. This will drive the content and device decisions necessary to execute on the vision. Key questions for the defining the educational vision and goals include:

- Enterprise or portfolio approach – coherence at the classroom, school, or system level?
- What kind of blended learning model or models will be implemented?
- How much of the school day will students spend interacting with digital content?

With thoughtful and well-developed models, educational leaders can determine a plan for investing in digital learning and meet multiple goals simultaneously—expanding student access to devices, enriching curriculum with new content and delivery methods, preparing for the shift to online assessments, and making sound financial investments in the future of education.

“[Rethink: Planning and Designing For K–12 Next Generation Learning](#)” is a great toolkit developed by Next Generation Learning Challenges (NGLC) and the International Association for K-12 Online Learning (iNACOL) for K-12 district, charter, and school leaders to use in the very early stages of conceptualizing and designing a next generation learning program, initiative, or whole school. The toolkit is not prescriptive. Instead, it offers a framework for helping educators to determine their own goals in “blended, personalized, competency-based learning.”

The goal statements from [Danville Schools](#), a small district south of Lexington, Kentucky, provide a good example:

- **Powerful learning experiences:** Every Danville student will consistently experience classroom work and activities that are meaningful, engaging, and relevant, connecting to students’ interests and/or previous knowledge.
- **Global preparedness:** Every Danville student will be immersed each day in learning opportunities intentionally designed to develop skills such as critical thinking, problem solving, teamwork, and data analysis, enabling them to compete globally.

- **Growth for all:** Every Danville student, regardless of starting point, will achieve at least one year of academic progress in reading and mathematics each school year.
- **Excellence in communication:** Every Danville student will be provided regular and multiple opportunities to demonstrate learning through verbal and written communications, visual and performing arts, and the use of multiple forms of technology.
- **An informed and involved community:** The Danville Schools will establish effective two-way communication, in various forms, with all stakeholders in the community.

These goals link to, but are not limited by, college- and career-ready expectations. They start with student engagement, imply a focus on communication, focus on growth for all students, and conclude with community connections. Metrics could be applied to each of these areas to create a results dashboard that can become the basis of a report to the community.

Project-specific goals for blended learning implementation should include timeline and milestones, budgets, staff learning goals, infrastructure objectives, and curriculum deployment activities. There is no universal reason for shifting to blended learning. Some schools are using blended learning to create more opportunities for small group instruction, while others hope to meet technology integration goals with blended learning. Staff surveys can help identify goals and critical starting points, including:

- Staff confidence with new learning and productivity tools;
- Early impressions about student engagement and learning; and
- Usefulness of current assessment data.

Goal setting should precede important next steps such as inventorying hardware and widely used applications, testing broadband access, and identifying blended learning programs and strategies.

The implementation of online assessments in 2014-15 acted as an important catalyst to expand overall access to technology, shift to digital tools and materials, and move toward personalized learning for all students. DLN's [10 Elements of High-Quality Digital Learning](#) and [Roadmap for Reform](#) offer policy advice around the core belief that all students must have equal access to high-quality digital learning opportunities, including both summative and formative digital assessments.

Without a plan for making these broader instructional shifts, we will miss this once-in-a-generation opportunity for systemic improvement that could meaningfully and sustainably address educational equity. If leaders focus instead only on meeting the minimum requirements, schools will suffer from instructional disruptions to accommodate testing rotations, destructive gaps in student learning experiences between instructional environments and testing environments, missed opportunities to take full advantage of online formative and diagnostic assessments to personalize instruction, and the continued inefficiencies that result from the purchase of outdated equipment and materials.



BUILDING SUPPORT

The first step in building a plan and support for that plan is a readiness assessment. The Friday Institute's [Readiness Rubric](#) is a useful example of tools that can provide a planning baseline.

The issue that has most changed in the last two years is teacher, student, and parent adoption of learning applications. A survey of change readiness should attempt to gain an understanding of the learning applications being used in school and at home. Identifying existing areas of teacher initiative is critical to harnessing teacher leadership as part of a blended learning strategy.

Building support with stakeholders over the course of an adequate planning period will lay the groundwork for development and adoption of blended learning models. As part of the effort to build support, consider launching several small pilots and adapt the plan as issues emerge.⁶

Efforts to build support for blended learning should include eight groups of stakeholders: the superintendent, the school board, teachers, the teachers' union, principals, leadership schools, the community and families. The process of building and maintaining support will be enhanced by continually reminding each group of the overall learning shifts that form the foundation for the shift to blended learning.

- **Superintendent leadership:** The superintendent and cabinet members should express support for blended learning in weekly staff communications and model mobile technology leadership in meetings and on school visits.
- **Board support:** School boards should conduct a board work-study on the Christensen Institute report [Classifying Blended Learning](#) and visit (at least virtually) leading blended learning models.

- **Principal support:** Build principal support by supporting a professional blended learning experience like Abeo's [Innovative Principal Network](#).
- **Teacher/staff support:** Build teacher and staff support by finding and featuring flipped classroom examples as a good starting point. Visit with every school's faculty to learn what's working, find leaders, and identify priorities. Create ways to leverage and showcase teacher leadership. Engage technology directors and teacher support staff.
- **Union support:** Build union support by reviewing [Opportunity Culture](#) models, discussing differentiated staffing and the potential for improved working conditions and career opportunities.
- **Leadership schools/programs:** Larger districts should develop a network of leadership schools like [NYC iZone](#). Build a local philanthropic partnership using the [Next Generation Learning Challenges](#) criteria for new and conversion schools.
- **Community engagement and support:** Launch a community conversation. Visit Rotary, Kiwanis, and Chamber of Commerce meetings. Ask members what they are [excited about and what they are concerned](#) about to identify issues that need to be addressed.
- **Student & family support:** Find ways to include students and their families, from early vision work through implementation and ongoing continuous improvement phases.

"NEA believes that the increasing use of technology in the classroom will transform the role of educators allowing the educational process to become ever more student centered. This latest transformation is not novel, but part of the continuing evolution of our education system. Educators, as professionals working in the best interests of their students, will continue to adjust and adapt their instructional practice and use of digital technology/tools to meet the needs and enhance the learning of their students." Source: [NEA Policy Statement on Digital Learning](#)



FUNDING THE SHIFT

Developing the budget capacity to improve student access to technology, implement new models, and train staff may seem daunting. Across the various

blended learning approaches, there is a broad range of costs per student and costs per school.

Comprehensive Financial Planning for Blended Learning

School systems must develop a multi-year financial plan that encompasses all cost categories and provides a clear path for financial sustainability. Underinvestment in key areas such as professional development or systems integration could undermine success. Additionally, if the digital learning initiative isn't designed for financial sustainability, it will be at great risk of being underfunded or eliminated once startup-funding sources (such as foundation grants or RTT funds) are exhausted.

| Implications For: | | | |
|---------------------------------|---|---|--|
| | DEVICES | HUMAN CAPITAL | FACILITIES |
| Station Rotation | Up to 3:1 device ratio may be sufficient, depending on group size and how much time is spent online | May require para-professionals to support one or more learning stations | Minimal—retains traditional classroom structure |
| Lab Rotation | Up to 3:1 device ratio may be sufficient, depending on rotation schedule and group size | May require para-professionals to support students in the lab | Retains classrooms, but significant investments may be required to create learning labs |
| Individual Rotation/Flex | Works best in a 1:1 environment | Significant flexibility to develop innovative staffing models | Breaks down traditional classroom structure; significant investments to create new learning environments |
| A la Carte/Self-Blend | Works best in a 1:1 environment, especially at the high school level | Varies depending on implementation, amount of time spent online and on site | Reduces demand for classroom space; may need to create lab or “cyber-lounge” |
| Enhanced Virtual | Requires a 1:1 environment | Varies depending on implementation, amount of time spent on site | Greatly reduced demand for classroom space |

Key Cost Drivers

The choice of educational model is a key driver for many cost categories (see table on page 16). For example, some models do not require a 1:1 device ratio, while others work best in a 1:1 environment.

A comprehensive financial plan should include cost estimates for each of the following categories:

- **Infrastructure** – what is the current state of broadband access, wired and wireless networking, availability of sufficient power, and classroom configurations?
- **Timing** – will the entire school or school system implement digital learning at once, or will there be a multi-year phase-in period? Some models lend themselves more to a phased approach (station rotation).
- **Devices** – what technology assets (hardware, software, etc.) are already in place that can be leveraged? What quantities of additional devices will be required, and how often will they need to be replaced?
- **Technology Support** – who will monitor your broadband network, provide real-time device support, and assist with software issues in the classroom?

State Roles in Boosting Blended Learning.

In June 2015, SETDA and the Friday Institute for Educational Innovation at NC State University College of Education co-released the national report, State Digital Learning Exemplars: Highlights from states leading change through policies and funding. The report highlights examples of states with policies in support of 5 key areas: innovative funding streams and policy, digital content, human capacity, network infrastructure and data management and privacy. The authors highlight progress toward digital learning nationwide, with an emphasis on several states that have emerged as leaders in embracing digital learning through state policies and practices in all five areas mentioned above. Exemplar states include: Alabama, Indiana, Kentucky, North Carolina, and Utah, and the report also highlights other states with significant progress in at least one of the specific five areas.

As described in earlier versions of this guide, “access partnerships” for bulk purchasing and knowledge sharing are one way states can support district efforts. Access partnerships can also include a matching grant program.⁷ For example, a state chief who wants to use a device with a total expenditure of approximately \$200 per student and teacher per year may propose a combined budget that includes a state contribution (for example, \$75 per student); a matching district contribution from a reallocation of technology, instructional materials, assessment, professional development, and staffing budgets; and a parent contribution of \$75 (with scholarships averaging about \$50 per student).

A 2012 Interview with Dr. Steve Morford describes an example from South Dakota:

Spearfish Schools was one of 20 pilot districts that took advantage of South Dakota’s Classroom Connections Project in 2006–2007. The program provided a one-time incentive for districts to go 1:1 with a \$1 match from the state for every \$2 that districts spent on devices and technology infrastructure. This one-time state match incentivized the initial participation of districts that now fund device purchases from district-operated budgets. Today, every student and teacher at Spearfish High School is equipped with the same “fully loaded” device that is purchased for \$1,100 with dollars from the district’s capital outlay fund. Parents are not required to make a financial contribution, and about 75 percent of parents purchase the optional \$25 device insurance. Students and teachers get new devices every three years. Since 2007, Spearfish has purchased new devices twice, with a new set of touchscreen tablets on their way for 2012–2013. Among the advantages to Spearfish’s 1:1 environment, Principal Steve Morford cited both student and teacher satisfaction. He stated that everyone from student teachers to 35-year veterans appreciates the opportunities that the technologically-rich learning environment provides. Mr. Morford believes the 1:1 program is one reason why the district continues to attract the best teacher talent year after year. Spearfish South Dakota provides a good example of the way states can use incentive participation to set increased student access into motion.

- **LMS and Systems Integration** – how will digital content and assessment data be integrated into existing data and assessment systems? Will the district need to invest in a new Learning Management System?
- **Digital Content** – what is the planned mix of open education resources (OER) vs. “packaged” digital curricula? Open resources may be low-cost or free, but additional resources may be required for curation.
- **Human Capital** – will the models being implemented require hiring of new staff, or changes in existing staffing or compensation? Will additional IT support resource be required?
- **Professional Development** – what training will be needed for teachers and instructional leaders? Will PD be delivered internally or through external providers?
- **Project Management** – who will be responsible for managing the project of implementing digital learning? Will outside consulting support be required?
- **Communications and Evaluation** – what resources will be required to communicate with various stakeholders regarding the plan, and to evaluate and report progress during and after implementation?

Funding Sources

The following examples describe the range of past and current funding sources. Districts should stay informed regarding funding opportunities in these broad categories:

- Federal funds (E-Rate, RTTT, RTT-D, Title I Part A, Title I Set-Asides, Title I School Improvement Grants, Title II Part A,, IDEA)
- State and local funds, facilities bonds, tech levy
- Philanthropy: corporate and foundation grants, Next Generation Learning Challenges, local donors
- Leasing

Leasing/Financing Strategies

Districts are not well equipped to make productivity-enhancing capital expenditures. They can float a long-term bond to build or remodel a school, but there's often no facility for making short-lived asset purchases like technology. Some wealthier districts can add a technology levy, but most schools and districts make piecemeal use of grants, programmatic funding, and

Project RED.

While fiscal considerations are certainly not the only reason for shifting to online and blended environments, research has indicated that the move from traditional to high-access environments can produce significant cost savings for states and districts.

In 2010, Project RED conducted the first large-scale national study to identify and prioritize the factors that make some U.S. K-12 technology implementations perform dramatically better than others. Researchers merged the findings from nearly 1,000 schools to identify a replicable design for technology integration and to create implementation tools based on this research.

Project RED, housed at the One-to-One Institute, offers tools to guide decision makers through everything from accessing readiness to measuring impact.⁹ Among these, Project RED researchers designed tools for funding the move to high-access environments by identifying 14 specific areas where costs can be reduced in order to free up dollars for reinvesting in other areas, such as technology infrastructure and devices. While not all districts may be able to generate savings in all 14 areas, the 1:1 Cost Savings Calculator Tool can help districts to prioritize areas and determine a strategy accordingly.¹⁰

Project RED research shows an average cost of moving from a traditional 3:1 classroom to a 1:1 classroom of \$298 per student per year, with potential savings of more than \$400 per student per year.¹¹ Areas with the potential to generate direct savings include moving to digital materials and online assessments, reducing print and copying budgets, and moving professional development online. Additional savings are more indirect, such as reductions in the cost of post-secondary remediation.

Consider a district-created internal Innovation Fund.

Across Reynoldsburg City Schools, personalization of learning is increasingly achieved at the classroom and individual student level through the shift to blended learning. The district's new Disruptive Innovation Investment Program (DIIP) is a school-level grant competition designed in partnership with The Learning Accelerator to foster new or developing initiatives that further progress toward financially sustainable academic growth and achievement for all students. While 'grant competition' might make it sound like the district is swimming in money, anyone could jumpstart blended learning on any budget. Reynoldsburg was spending about the same in 2014 as it was back in 2005.

end-of-year surpluses. Erratic purchasing patterns lead to different computer and software combinations with no plan for regular updating.

Another method for reducing the up-front financial burden is to lease or finance purchases of devices. Districts can often leverage their low cost of capital to finance device purchases at very low interest rates. Leasing offers the opportunity to manage an asset category like instructional technology more rationally. The Consortium for School Networking (CoSN) suggests that leasing be considered as a means for sustaining refresh schedules—and shifting from every six or seven years to every three or four years.⁸

Leasing levels out the annual expenditure of student and teacher laptops. It's usually easier for a district to include a regular lease payment in an annual budget than to plan for large expenditures every four years. Leasing adds a finance charge, which increases the total costs. However, the benefits of hardware/software standardization may offset the higher cost of leasing.

Overall, plummeting device prices and open software resources are making the shift to digital much more affordable. Today's devices are available for around \$500 and utilize open resources. The combination is more powerful than loaded laptops costing \$1,500 just three years ago—and they are available to lease for about \$20 per month.

Schools considering the 1:1 use of \$500 laptops can make the full shift using leasing or phase in a purchase plan over three years. A district that has the discipline to phase in a technology plan and manage an annual refresh program will save money by purchasing rather than leasing. On the other hand, leasing can facilitate whole-school or district-wide implementation and certainty on the refresh schedule.

With leasing, it is important to predict whether the equipment will be purchased or returned at the end of the lease. It will be cheaper to accept a "fair market value" buyout at the end of the lease, but if parents are likely to buy laptops it is often better to have a defined purchase price to avoid confusion. If a district is considering leasing, it's always a good

idea to compare rates, lease terms, fees, and options available from various banks, equipment vendors, and leasing companies.

Reallocation Opportunities

Absent major increases in school funding, most school systems will be faced with the challenge of finding room in their existing budgets for increased technology investments and other costs related to digital learning. Assuming major infrastructure needs are funded through school bonds and E-Rate (probably the only viable avenues to fund multi-million dollar infrastructure requirements), this need not be a difficult exercise.

Digital learning allows schools to realize many areas of cost savings, especially when moving to a 1:1 environment in which many traditional spending areas will naturally decrease (paper, copier lease/operating costs, textbooks, manual data entry, etc.).

While the cost for 1:1 implementation can vary widely based on purchasing decisions, research from Project RED formed the basis for the FCC report that determined that switching to devices from traditional tools like printed textbooks could save schools as much as \$3 billion a year.¹² This figure was based upon an assumption of a \$250 device estimate, amortized over four years.

A careful assessment of current technology assets and spending patterns may also help districts find ways to allocate resources more effectively. For example, a school may have several underutilized computers in each classroom that can be combined into a centralized learning lab that will be used non-stop throughout the school day. In addition, expensive investments in productivity software and local file and mail servers can now be replaced with free or low cost cloud-based services.

While not specific to funding blended learning tools from ERS, such as [Assess Your District](#), [Resource Choices](#) and [School Budget Hold'em](#), can help district identify opportunities for reallocating funds.

Since labor is the single largest line item in most school budgets, a small increase in the student-teacher ratio can have a major impact on financial sustainability. Many districts have chosen to gradually adjust staffing ratios (without layoffs, given there is a baseline rate of annual staff attrition) to fund increased investments in technology and digital learning. This is easier to do in districts with increasing enrollment, and is easier with new schools than with conversions.

Grants can help. Look for grants from national and state programs. Engage local foundations. [DigitalWish](#) has supported 30,000 classrooms and has resources for building high-access environments. E-Rate may be a source of funding for improved broadband and internal connections.

While it is tempting, avoid using long-term construction bonds to fund computers—you'll be paying for them for 30 years! Where they are available, renewable technology levies are a more sustainable source of additional funding.

Start or join a state conversation. Encourage state contributions to improved access, professional development, and new school grants.

A bring-your-own-device (BYOD) policy can also augment school-provided devices to create a high-access environment. Schools should provide at least enough devices to support their state's assessment program.

In addition to devices and training, it is important for districts and networks to plan and budget for program management capacity. Find a capable internal project manager. Add external capacity if necessary. Schedule regular meetings with senior leadership. Plan for weekly stakeholder communication.

Strategies for Boosting Affordability

- *Phasing in changes over three years can make the transition manageable and allows the district to capture savings that help pay for additional phases.*
- *Shifting to online instructional materials may offer savings, particularly if open education resources are incorporated.*
- *A transition to online and blended professional development is another source of savings.*
- *Assess existing programs to determine if they can shift to blended learning and decommission any ineffective programs.*
- *Project RED enumerates numerous reductions in a list of possible savings.*
- *Review software usage and data integration methods. Leverage open education resource solutions when appropriate and that can integrate with provider software with your student data systems so that student accounts are automatically maintained without costing district IT time and resources. Reduce investments in products that are not being used by all schools.¹³*
- *Title I funds can be used for computers, instructional software licenses, and professional development intended to improve a school's instructional model. These funds can become even more flexible when districts implement schoolwide programs in schools where at least 40% of students are low income.*
- *Districts should maximize E-rate funding for all eligible services.*
- *Leverage School Improvement Grant funding.*
- *For computer and tablets that go home with students, a user fee of \$50 can cover the cost of insurance.*
- *Consider leasing as an option not only for faster implementation but also to build in a recurring budget to regularly refresh the equipment.*
- *Use Summer School to pilot innovations before you deploy them throughout the year. Companies may be willing to give away their software free during the summer in order to win your business during the year. If you're trying to figure out what works, there is no substitute for trying it out with real students and teachers.*

FINANCING A SUCCESSFUL 1:1 DIGITAL INITIATIVE

Dr. Mark Edwards, Superintendent, Mooresville Graded School District

1:1 digital initiatives have the ability to transform an educational system. Without a well-planned financial strategy, however, most 1:1 initiatives will fail. When planning to fund this type of major endeavor, decision makers must consider three integral parts: 1) infrastructure and network, 2) computer purchase or lease, and 3) software.

First, a strong infrastructure and network must be present to handle the computers and ultimately the software that will be utilized in the educational environment. Each district will have a certain amount of infrastructure already in place to provide the usual and customary services. Additional components consist of wired or wireless networking as well as the servers necessary to support the computers and software. Funds for this aspect of a 1:1 initiative can be provided from current expense accounts, capital outlay accounts, new construction accounts, or grants.

There are also a variety of options available for funding the computer purchase / lease program and needed software. These funds could also come from a current expense account, capital outlay account, new construction account, grants, or programmatic state and federal funds.

During the planning phase of a 1:1 initiative, the amount of capital needed may seem unfeasible. As you begin the process of implementing the initiative, however, you will find spending for items such as textbooks, workbooks, maps, globes, calculators, and reference books will decrease as these items will all be part of the digital world that all students will have access to. Also, do not forget to look at specific program resources, such as for CTE or Exceptional Children, when determining funds that may be available to support the program. Finally, there are many grants available that you may be eligible for; however, review grant applications carefully to ensure they don't fund a specific type or brand of equipment used that may be different from that being used by your system.

While it may be hard to wrap your mind around the cost of such an initiative, the cost can easily be reduced to a format that makes it more readily understood and accepted. Take the total cost for each computer and divide it by the useful life (three

to four years). Divide this number by the 220 days the computer is available to the student for unlimited use. This figure—your daily cost—is much more manageable.

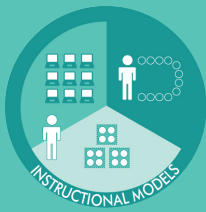
| | |
|--|------------------------------|
| Laptop and Student Software Total Cost | \$800 |
| Life Cycle | 4 years |
| Annual Cost | \$200 (\$800 / 4 years) |
| School Days | 220 |
| Daily Cost per Student | \$0.91 (\$200 / 220 days) |

As you can see, for less than \$1.00 per day, you can provide your students with 21st-century tools that will produce improvements in attendance, test scores, and student engagement. That is PRICELESS!

Another aspect of a 1:1 initiative that will need to be addressed is staffing. With a 1:1 initiative, technology staffing will need to be increased; however, a much larger digital program can be managed with even a small increase in staffing. Each school will need a help desk with a person who can manage day-to-day issues with the laptops including minor repairs. The help desk position can be funded through the elimination of other positions that will no longer be needed once the laptops are distributed, such as a computer lab position.

With any technology, repairs will need to be made. Funding for needed repairs comes from the insurance fee charged to students. Mooresville Graded School District chose to be self-insured rather than purchase a policy for repairs. While the insurance fee is minimal, it is effective since the financial commitment puts some responsibility on the student to take care of the machine. While every student is charged the insurance fee to pick up his or her laptop, the district understands that the insurance fee may place an undue burden on some families. Therefore, the Mooresville Graded School District Foundation for Excellence in Education has established an annual fundraiser to provide the funds needed to support those families.

PLANNING



Implementing blended learning requires a good plan. A good plan answers important questions about how decisions will be made in six key areas:

1. Strategy and timeline
2. School models
3. Platform and content
4. Device
5. Staffing and development plans
6. Improvement and impact measurement



STRATEGY AND TIMELINE

It is too hard to plan five years out. A one- or two-year plan is too short. For most schools and districts, a three-year timeframe is just right. With the pace of change, big budgets for custom development and commitments longer than a couple years are not prudent.

Enterprise Approach or Portfolio. For many districts, the most important decision will be whether to build a common district plan or encourage schools to develop their own plans. An organization-wide approach to information technology—the same devices running on the same systems across an organization—is often called an “enterprise approach.” The educational equivalent is a district that uses the same curriculum, same staffing strategy, same student supports, same schedule, and same device across the district. A frequently cited high-performance example is Mooresville Graded School District, North Carolina—the home of the 2013 Superintendent of the Year, Mark

Edwards. Mooresville is in the bottom 20% in terms of dollars spent (\$7,415.89 per student/per year) but is third in test scores and second in graduation rates in the state.¹⁴ An enterprise approach can feel like a series of top-down directives, but Edwards has developed a collaborative culture that values teacher engagement.

The alternative to the enterprise approach is a portfolio of different school models; districts like New York, New Orleans, Reynoldsburg (Ohio) and Denver have taken this approach. Alex Hernandez of [Charter Growth Fund](#) says a portfolio strategy is “the most fertile ground for educational innovation.”¹⁵

The need to take a portfolio approach may be driven by size as well as differential performance. In a big district where some schools perform well and others struggle, the district should differentiate its approach, providing directive assistance to some schools that need additional support and autonomy for high-performing schools. Depending on the district strategy, principals can be empowered to make key development decisions. Districts can encourage schools to adopt promising models or join existing networks.

Paul Hill, Founder of the Center for Reinventing Public Education, has written extensively about the [portfolio approach](#) and created a network of districts deploying similar strategies. “The strategy, built around [7 key components](#), creates diverse options for families in disadvantaged neighborhoods by opening new high-performing, autonomous schools; giving all schools control of budgeting and hiring; and holding schools accountable to common performance standards.”¹⁶

Turnaround. Turnaround is both a strategy itself as well as circumstances under which a school would develop a blended learning strategy. A three-year plan for a portfolio district should integrate improvement and blended learning strategies and phases of improved access. There are a growing number of choices for districts looking for improvement partners with blended models.¹⁷

The [Education Achievement Authority \(EAA\) of Michigan](#) is a statewide improvement district (modeled after the [Louisiana RSD](#)). Chancellor John Covington, building on work he started in Kansas City, Missouri, is leading development of a blended competency-based turnaround model using a model platform, [Agilix Buzz](#), from the makers of BrainHoney. The personalized learning system helps “students map their learning paths, make choices and decisions around progression and pacing, conduct self-assessments, and learn to understand the consequences of their decisions,” and the system tracks it all. A 210-day year provides extra learning time.¹⁸

[Generation Schools Network](#), working in Denver’s West High, is deploying a combination of restructuring and personalization: a long day and year, big blocks of time that reduce teacher loads, and half-class mini-lab rotations. They use open and proprietary digital content sources and [JumpRope](#) to track competencies.

[Horry County Schools](#), South Carolina, is turning around a middle school with a “blended core academic curriculum and a carefully constructed system of supports.” It is a competency-based model that both accelerates academic gains and develops students’ lifelong skills and dispositions. “One hundred students will move among the four Learning Team classrooms based on their personalized learning plans, constructed around each student’s aspirations, learning preferences, and demonstrated proficiency.”¹⁹

While flipped classroom strategies do not mean the full potential of blended learning, adopting “flipped” practices can act as a catalyst for an overall shift to blended learning. Greg Green credits [the flipped classroom strategy with turning around his failing school](#): “Two years ago our failure rate was 61.2 percent; after just one quarter [using a flipped model], the schoolwide failure rate dropped to just below 10 percent.” [Clintondale High School](#) came off the struggling schools list. “The flipped class model has allowed us to give students access to the best possible materials, resources and education.”²⁰

Pearson has incorporated blended learning strategies into its [Schoolwide Improvement Model](#).

Components of a Portfolio Strategy

1. *Good options and choices for all families: District should ensure quality options through student assignment policies and improved options.*
2. *School autonomy: School leaders should have as much autonomy as possible and should be held accountable for results.*
3. *Pupil-based funding for all schools: Funds should follow students to schools.*
4. *Talent-seeking strategy: National recruiting and local talent development should aim to identify and support the best teachers, administrators, and support staff.*
5. *Sources of support for schools: District should identify a diverse set of providers to support schools.*
6. *Performance-based accountability for schools: Accountability systems should be designed to ensure that effective schools get replicated, struggling schools get support, and chronically low-performing schools are closed.*
7. *Extensive public engagement: Portfolio strategy creates significant change for all stakeholders and, as a result, requires high engagement from the community as well as internal stakeholders.*

(Source: [Center for Reinventing Public Education](#))

To the existing school of thought on portfolio strategy, the evolution of blended learning suggests three additions:

1. *Add blended learning to school improvement strategies.*
2. *Open new blended schools.*
3. *Add online options so students can blend their own learning.*

With the support of Next Generation Learning Challenges, the Getting Smart team spent a year visiting and learning from next gen schools across the country. [Lighting the Path to Personalized Learning: Inspiring Stories from Next Gen Schools](#) tells the story of 14 schools across the country that are breaking through the traditional model of school to present students with next gen learning experiences that are personalized and engaging. The report shares challenges and successes of these schools to bring light to the lessons learned through their implementation efforts.

Teacher leadership. Whether you take an enterprise or portfolio approach (or a mix of the two), another big strategy question is how to leverage teacher leadership. With the introduction of tablets and the many free applications available for them, many teachers have blended their own classrooms. It is important to leverage these early movers. Recognizing their work is a good place to start.

Given that a percentage of teachers and students have made the shift to digital learning, the question is how to incorporate their leadership in school and district plans. The first step is a good survey of tools and strategies so you know what is going on.

Next, use incentives and supports to turn pockets of promising strategies into productive school models. Districts can also create supports and incentives for schoolwide adoption of popular platforms and applications (e.g., a school where 20 of 30 teachers use [Edmodo](#) could quickly become a schoolwide model). In doing so, look for ways to connect schools with similar models and strategies through a new or existing network of support.

Two resources from Getting Smart - [Elevate and Empower: World Language Instructors as Key Players in the Shift to Competency-Based, Blended Learning](#) (in partnership with Rosetta Stone) and [Preparing Leaders for Deeper Learning](#) - describe ways in which teachers can act as powerful forces for implementing and scaling blended, competency-based learning.

Phase or plunge? Districts and schools need to decide whether to plunge in all at once or phase in improved access and new school models over three years. Schools like [North Carolina's Rocky Mount Prep](#) point to both the benefits and challenges of making a full K-12 transition at once.

Improving computer access for most grades in a year may require a special levy or a financing option like leasing. The benefit to this approach is that it quickly eliminates inequities. The downside is that it costs more and will force more unprepared teachers to adopt new models and practices before they are ready.

In 2013, Project 24 was created to offer a systemic planning framework around the effective use of technology and digital learning to achieve the goal of “career and college readiness” for all students. The free, one-stop shop of planning tools, expert advice, creative ideas, and tangible suggestions from experienced education experts and nonprofit education membership organizations supported over 1,000 school districts nationwide. In August of 2014, the [Alliance for Excellent Education](#) began working with the [US Department of Education](#), with support from the LEAD Commission, on a collaborate effort known as “[Future Ready Schools](#)”. Future Ready is an effort to maximize digital learning opportunities and help school districts move quickly toward preparing students for success in college, a career, and citizenship by providing districts with resources and support. At the center of the effort is a series of regional summits where district teams will develop action plans and metrics to measure their progress in using digital tools to improve teaching and student learning outcomes. The summits will focus on a comprehensive set of issues that drive student learning, will highlight the experiences of districts in each region, and will offer district leaders tangible ways to build capacity among their teams and throughout their districts. Districts can take the Future Ready pledge and access free resources at: <http://futureready.schoolwires.net/take-the-pledge>

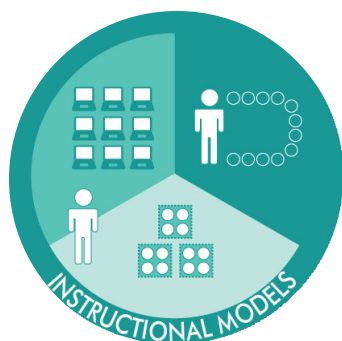
Criteria for Selection of Pilot Sites

- Identified level, subject, content, and model
- Likelihood of success: enthusiastic principal and teachers
- Relevance and replicability of lessons learned
- Timeline: may take 2–3 years to demonstrate results

Be clear about the learning goals of the pilot:

- Why are you running a pilot?
- What do you hope to learn?
- How will you know whether you have learned it?
- What will you do once the pilot is completed?

Multiple pilot projects can be used to test deployments and demonstrate new learning environments. It is helpful to have a local blended learning environment that teachers and parents can visit.



SCHOOL & INSTRUCTIONAL MODELS

Blended learning models intentionally integrate technology to boost learning and leverage talent; they don't just layer technology on top of business as usual. Leaders need to help the community weigh the pros and cons of different online options and devices and find ways to extend the reach of the most effective teachers and build support systems for teachers that need support. Education leaders should guide conversations that determine the best model or portfolio of models for their school community.

There are two primary types of blended learning models: rotation and flex. Students in rotation models transition from face-to-face instruction to

online learning in classroom centers or a computer lab. Rotation models are common at the elementary level. In this category, Christensen Institute includes: station rotation, lab rotation, flipped classroom, and individual rotation.

Flex schools have a digital curriculum that may be supplemented with projects, tutoring, and small-group instruction. Students often work independently and move at their own speed. Flex models are most common in high schools.

Most districts and many states are expanding access to part-time online courses, especially for hard to staff upper division courses and electives. Christensen Institute calls this an a la carte model.

John Danner, founder of a leading network of blended learning schools through [Rocketship Education](#), warns that it will become harder and less useful to categorize models by inputs. He urges focus on three key metrics: ratio of students to teachers (a key cost variable), the amount of autonomous online time per day (a key replication variable), and—most importantly—student performance. “The attitude should be that whatever lets you maximize those metrics is good.”²¹

Where states and districts allow, secondary students are blending their own learning. According to iNACOL, [about two million](#) U.S. students take online courses to

| LAB ROTATION MODEL | | Student Group A | Student Group B | Student Group C |
|--------------------------|---------|-----------------------------|-----------------------------|-----------------------------|
| | Block 1 | Computer Lab & Project Work | Humanities Block | STEM Block |
| | Block 2 | STEM Block | Computer Lab & Project Work | Humanities Block |
| | Block 3 | Humanities Block | STEM Block | Computer Lab & Project Work |

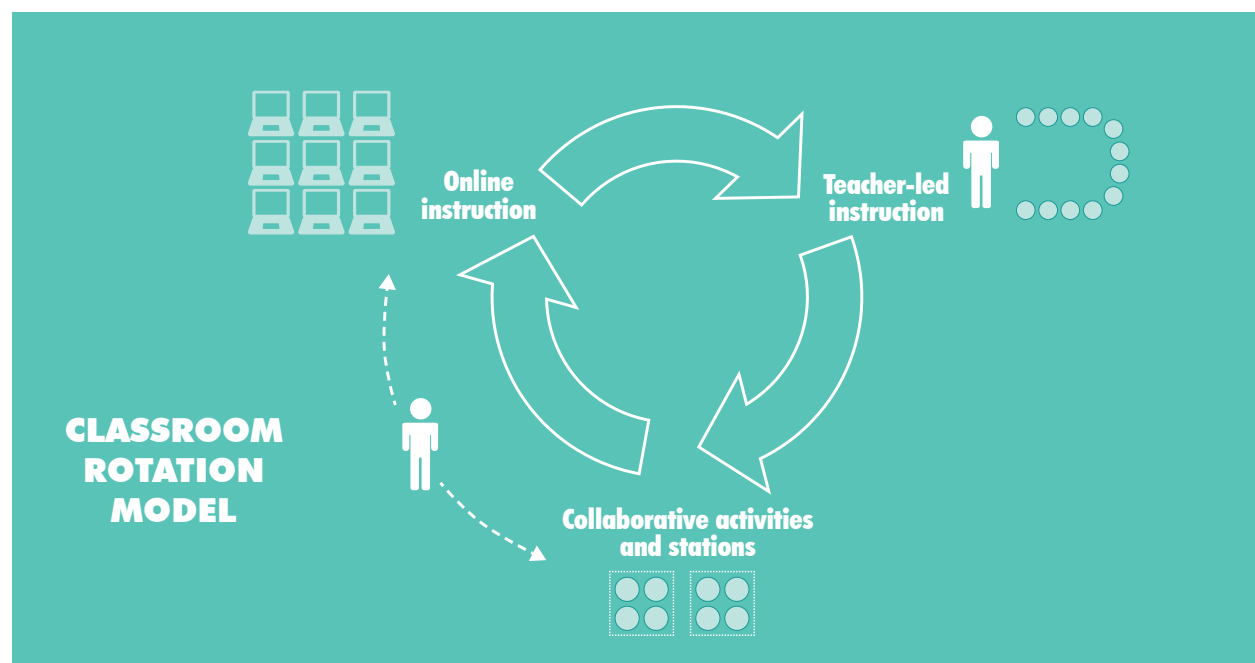
supplement traditional offerings. Some seek college credit opportunities, while others are recovering a missed credit. Scott Benson, Senior Program Officer for Next Generation Learning Models at the Bill & Melinda Gates Foundation, said, “Students are blending their own learning everywhere with informal learning. The key distinctions are (1) who delivers it (formal system or not) and (2) whether or not students can receive credit for proficiency/mastery.”

Rotation Models

Providing [an inside view of blended integration at Rocketship Education](#), the top public school system in California for low-income elementary students, Charlie Bufalino notes, “The three pillars of our model are: parent and community engagement, rich professional development for our teachers and school leaders, and individualized learning for our students.”²² To promote individualized learning, Rocketship’s original structure placed students in a Learning Lab for two hours per day using adaptive software including [DreamBox](#), [ST Math](#), and [i-Ready](#). In an effort to improve the integration between the classroom and the Learning Lab, the model has changed from a lab rotation to a classroom rotation model.²³ According to a recent profile of Rocketship

by Public Impact, “[Rocketship’s] leaders wanted to fix a disconnect they saw between what happened in the lab versus the classroom by bringing the online work closer to the teachers, giving them more control over the digital learning students experienced and letting them integrate it more into their teaching, to further individualize the teaching.”²⁴ The profile goes on to explain how in a few classrooms across different grade levels, Rocketship is testing more open, flexible classroom spaces where the computers are in large classrooms with multiple teachers and groups of students, allowing teachers to personalize instruction across multiple subject areas and modalities.

Like [Rocketship](#), some Chicago elementary schools have used a computer lab to extend their day using engaging and adaptive skill-building software. In addition to Rocketship, more than 1,400 elementary schools use ST Math from [MIND Research Institute](#) in a lab rotation model. READ180 is a blended reading-intervention program with a long history that serves more than a million students. The program leverages adaptive technology to individualize reading instruction for students in grades 4–12 and provides teachers with data for differentiation.



[Carpe Diem](#) secondary students rotate between teacher-led workshops and an individual workstation powered by [Edgenuity](#). Founder and director Rick Ogsten says, “Rather than nursing students to passing grades, teachers here act as doctors creating surgical interventions or as personal trainers extending and deepening learning.”²⁵

The three [KIPP schools in Chicago](#) have converted to blended learning. KIPP plans six K-8 schools serving 5,000 students by the end of the decade. KIPP Chicago opened College Prep Middle School last year with a learning lab featuring i-Ready, [LearnZillion](#), and [Wowzers](#) on Edmodo and [Chromebooks](#) with [Eduvant](#) dashboards. This example shows how a school can use student learning goals to drive purchasing decisions in order to produce a learning environment in which multiple solutions come together to serve instructional goals.

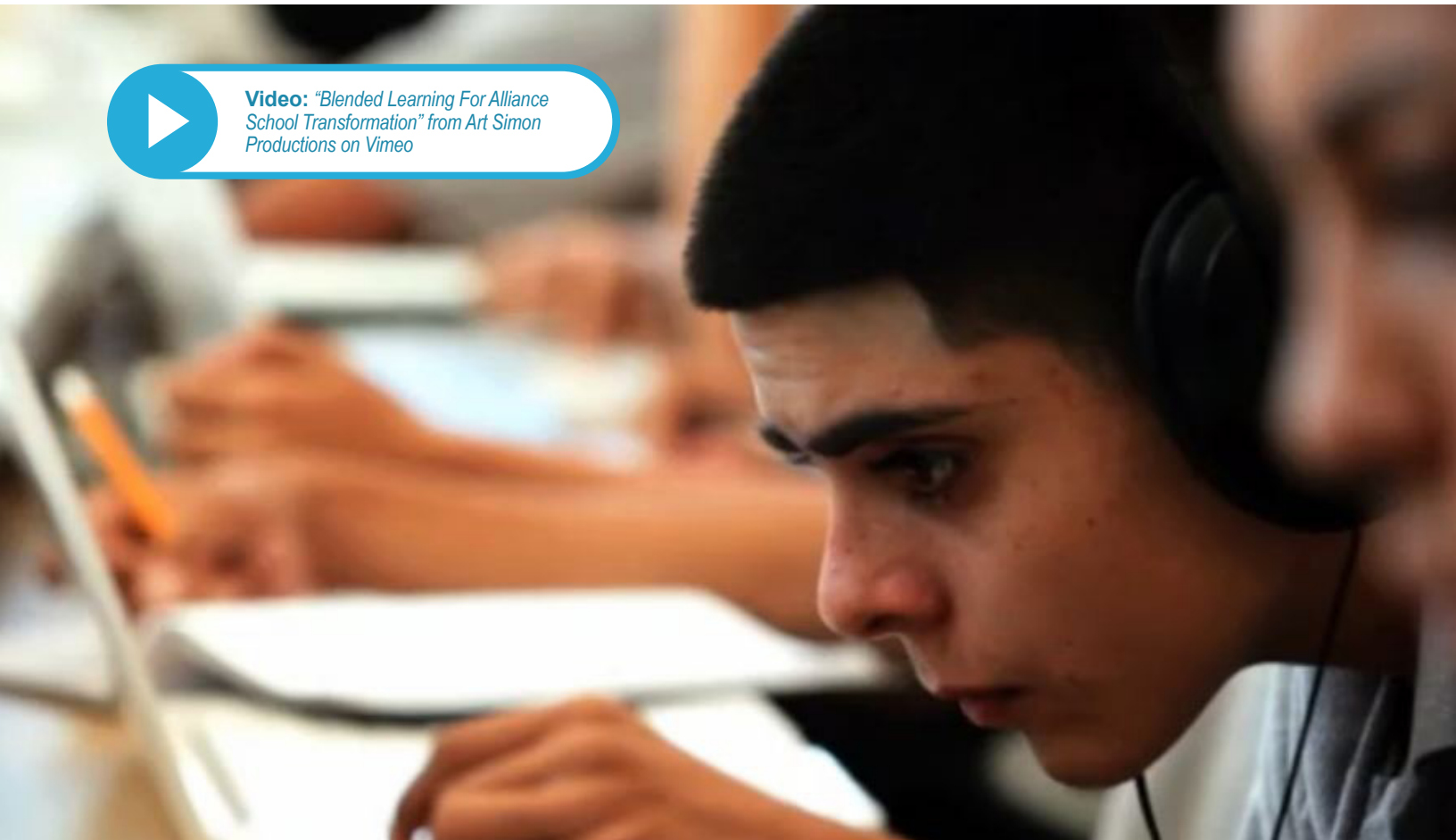
Many elementary teachers use multimodal centers. Powered by the growth in tablet computing, the classroom rotation model of blended learning builds on that practice.

When faced with a much smaller budget than he was used to, Mike Kerr opened [KIPP Empower](#) in Los Angeles with a classroom rotation model that used computer stations to keep reading groups to no more than 14 students.

At [School of One](#), powered by [New Classrooms](#), teachers are able to teach small-group lessons to students when they are ready for that lesson in their preferred modality. This is all possible with the application of a computer algorithm, some use of asynchronous activities, and dynamic scheduling. Blended learning changes the nature of instruction—both face-to-face and online—and should improve, not reduce, the quality of human interaction. Rocketship, KIPP Empower, and School of One are examples of lab, station, and individual rotation models.



Video: “Blended Learning For Alliance School Transformation” from Art Simon Productions on Vimeo



The following NGLC-awarded models incorporate project-based learning in blended environments:

- [Da Vinci](#): “Project based learning underpins Da Vinci’s model and much thought has been put into designing engaging and enriching activities . . . Projects will be planned by teams that may include Da Vinci faculty, industry experts, college faculty and students.”
- [Aspire’s](#) middle school instructional model in Tennessee will be STEM focused and move from a rotation environment to a one-to-one, project-based environment. (See [Aspire’s Blended Learning Handbook](#) for more information on their key implementation lessons.)
- [Summit](#) debuted a new learning model in 2013 “with a robust, custom-built LMS, continuous student access to content and assessments, and an Intersession program that regularly offers all students intensive, hands-on opportunities to apply their skills and knowledge, explore their passions and interests, investigate careers, and learn outside the school walls.”

- [Intrinsic](#) students at the Chicago network will “move fluidly between individualized adaptive digital content, multimedia content, small group instruction, seminars, and group and independent project work.”


While blended strategies introduce more opportunities for individualization, most rotational models rely primarily on cohort-based matriculation.

Flex Models

More common at the secondary level, flex models feature 1:1 technology access, instructional delivery primarily online, and competency-based progressions. Learning online is often augmented by small-group instruction, projects, and individual tutoring.

- [iPrep Academy](#) is a Miami-Dade school operating on a flex model powered by [Florida Virtual School](#). Students move at their own pace and augment online work with projects, tutoring, and work-based learning.²⁶



 **Video:** “Inside Kipp Empower” made publicly available on YouTube

- [AdvancePath](#) is a national network of dropout-prevention academies that allow over-aged and under-credited students to catch up. Students move at their own pace using Apex software. Teachers provide one-on-one and small-group tutoring.²⁷
- [Flex Public Schools](#), powered by K12, combines online courses with onsite support and guidance.²⁸
- [Nexus](#), a flex-plus model from Connections, features success coaches, personalized instruction, and personal fitness.²⁹
- [USC Hybrid High](#) is open up to 12 hours a day, 7 days a week, and 310 days a year. The model allows for personalized and mastery-based learning and provides significant out-of-school learning opportunities and an advisory structure for social-emotional supports. Students spend about half their time engaged in self-paced Apex courseware and the other half on “challenge-based projects, internships, dual-credit courses, and community service.”³⁰
- [Schools For the Future](#), uses a mastery approach combining a personalized instructional model and “intensive staffing with strategies to address social-emotional development with ‘wraparound’ services like tutors and various technologies to support the diverse learning needs of students who are two or more years behind academically when they enter high school.”³¹

There are [many reasons for districts to add flex models](#). They can leverage local assets, address specific needs, and provide flexible and cost-effective options for students. Perhaps most importantly, flex models provide site-visit opportunities where staff members can experience competency-based blended learning with innovative staffing and scheduling.

All of the models previously highlighted are first generation. Implementing blended learning should be treated as a research and development project. [Blended networks profiled by FSG](#) found that “blended learning is less about implementing a static model than it is about using a model as a starting point for ongoing iteration and improvement.” FSG notes key variables that have proven important: integrating data from face-to-face and online instruction and planning student movement carefully to maximize instructional minutes.

A recent report from the Lexington Institute profiles Oakland (CA) Unified School District’s Blended Learning Pilot, Rocketship Education; Summit Public Schools; and Carpe Diem Schools.³² The report highlights these schools as four instructional models that take blended learning to the next level by striving for “digital differentiated learning” in which “each and every student’s learning is individualized and adaptive.” The report explains “digital differentiated learning” consists of but is not limited to:

- The use of online or computer-based content and assessment tools combined with individual or small group instruction, with opportunities for both remediation and enrichment on a continuous basis.
- Individual student comprehension and subject mastery serve as a baseline for differentiated instruction.
- The creation of learning objectives, aligned with state standards, for individual students across academic subjects as defined by content mastery, not by grade level or age.
- The delivery of content and assessments based on student learning objectives and initiative, with guidance from teachers.
- The regular incorporation of data assessing individual students’ progress toward learning objectives to customize delivery of instructional content and assessments.

The program takes place, at least in part, at a supervised, brick-and-mortar location away from a student’s home.

The Michael & Susan Dell Foundation published a set of case studies to “contribute to the evidence base of blended learning’s potential to impact student outcomes.” The case studies feature many of the schools highlighted in this Guide including Rocketship, Summit Public Schools, and KIPP LA. The case studies and related materials provide a useful resource for schools that are just beginning the implementation of a blended learning program and wish to learn from the lessons of pioneer models.



PLATFORM AND CONTENT

Device and platform choices will limit the types of instructional resources and services available to teachers and students. Conversely, choosing based on content may limit platform and device options. As a result, this section deals with both.

Platforms

While the market is dynamic, current platform choices can be frustrating. On the one hand, there are easy to manage and monitor learning management systems (LMS) built to support a system of unitary courseware. On the other hand, there are tablets and exciting mobile learning applications without single sign-on, reporting, and management capabilities.

Choices are quickly improving. By the beginning of the 2014–15 school year, there will be several platforms that offer big content libraries, comprehensive learner profiles, smart recommendation engines, many productivity tools, and an array of support services.

This feature set can be predicted based on nine vectors pointing in this direction. For demonstration purposes, a few examples are shared to illustrate each:

1. Learning management systems incorporating learning objects and learner profiles (e.g., [Edgenuity](#), [Desire2Learn](#)).³³
2. Social learning platforms adding functionality (e.g., [Edmodo](#), [Schoology](#))
3. Blended learning platforms (e.g., [Education Elements](#), [Buzz](#), [Vschoolz](#))

[Education Elements](#) developed a useful infographic to help schools select content for their blended classrooms. The infographic guides school leaders through these four steps.

Step 1: Define the role of digital content in your classroom and how much you want teachers to influence the scope and sequence of digital content.

Step 2: Research the digital content market to isolate the high-quality providers that suit your needs. At Education Elements, we extensively research content and applications options, using a detailed Digital Content Rubric.

Step 3: Explore your short list by scheduling product demos.

Step 4: Select the providers that best fit your needs and be sure to inquire about: references, pricing, implementation, professional development.

Next-generation learning platforms will have 10 features:

- Single sign-on & SIS integration
- Knowledge maps aligned with Common Core State Standards
- Open and proprietary content organized by level, subject, theme, modality
- Standards-aligned assessments and performance tasks
- Achievement reporting and recognition systems (e.g., badges and data visualization tools)
- Standards-aligned gradebook and competency-tracking systems capturing computer-scored and teacher-observed items
- Comprehensive learner profiles including portfolios of student work
- Recommendation engines that consider learning level and best learning modality
- App-rich social learning platforms supporting teacher and student productivity
- Service economy including student, teacher, and school services

4. Instructional improvement systems (e.g., [Silverback Learning](#), [Home Base](#), the Instructional Improvement System in North Carolina)
5. Online learning providers (e.g., [Apex](#), [Connections](#), [Florida Virtual](#), [K12](#))
6. Adaptive content providers (e.g., [DreamBox](#), [i-Ready](#), [Reasoning Mind](#))
7. Assessment and data platforms (e.g., [Assistments](#), [MasteryConnect](#), [Naiku](#))
8. Grade-level collections and tablet bundles (e.g., [GooruLearning](#), [PowerMyLearning](#), [Amplify](#))
9. Federated identity and access management (e.g., [Clever](#), [myCampus](#))

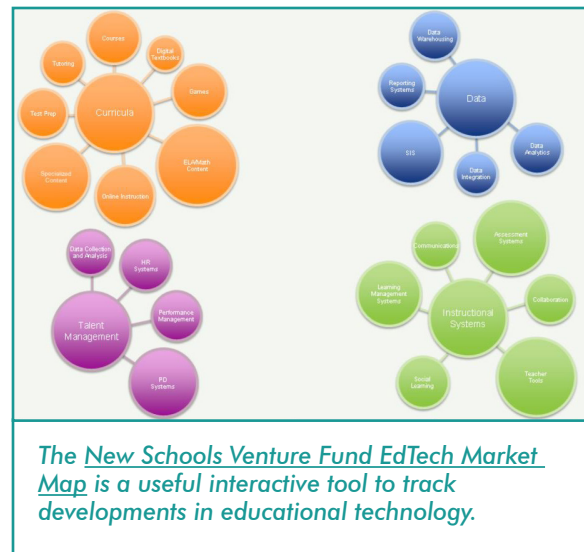
Given the complexity of choices, schools, districts, and networks should:

- Start with learning goals and blended models first, decide on platform and content second, and choose devices third.
- Demand integration of student information systems (SIS) and learning platforms with single sign-on for students and easy grouping for teachers. Make sure your solutions are using the same kind of service.
- Avoid custom development and long-term contracts.
- Avoid platforms that don't support multiple content vendors and teacher-developed content.
- Prioritize standards-based gradebook and reporting functionalities—they should provide actionable information and the tools to manage a competency-based learning environment.

Content

Over the last few years, there has been an explosion of digital learning resources. With the shift from print to digital, there is also a shift from flat, sequential content to adaptive, engaging learning experiences—from text to learning services.

This section considers premium (paid) content, open content, and teacher-developed content.



Questions to ask content and learning services vendors³⁴

1. How is your product/service aligned with college- and career-ready standards?
2. How will this content/service enhance students' learning experience?
3. How are you helping teachers and leaders with implementation of these products?
4. Who is developing your products and what are their credentials?

The explosion of mobile learning apps has made it extremely difficult for schools (and parents) to remain current. [App Reviews](#) from Common Sense Media and [Product Reviews](#) from EdSurge are good starting points.

Premium Content

While there is growing use of open and teacher-developed content, there are a number of good reasons for considering premium content (and, more broadly, subscription learning services), particularly as part of a blended model:

- Sequences of engaging standards-aligned units promote autonomous study.
- Smart content with embedded assessments including simulations and games provide instant feedback and promote persistence.
- Support for adaptive instruction combining adaptive assessment and targeted instruction.

The [Smart Series Guide to EdTech Procurement](#) helps school and district leaders think through key purchasing decisions in planning for the shift to blended learning. The goal is to create a framework for EdTech purchasing by offering practical advice to guide key decisions, sharing lessons learned from districts that have already made the digital shift, discussing the implications for blended learning, and providing examples of best practices in education policy that support smart procurement.

The guide offers 12 keys to smart EdTech procurement:



As learner profiles, tagging systems, and recommendation engines become more sophisticated, customized progressions will address individual learning needs and preferences.

Premium content will increasingly come bundled with related services, including assessment, analytics, and reporting. Emblematic of this shift, Pearson has combined its content and assessment groups into a single business unit. The lesson is, don't think of assessment just as something that happens after and separate from instructional resources. Assessment and immediate feedback can be integrated into learning experiences.

Teacher-Developed Content

Most blended models discussed thus far have been engineered by networks with the expectation of high-fidelity implementation. Nevertheless, there is an entirely different philosophy based on harnessing the power of the Internet to enable teachers to play a fundamentally different role in the process, one separate from a district-driven implementation. With improved ability to record and share lectures, teacher-created content and flipped classroom strategies are becoming more common. Teachers are sharing resources and lessons on a growing number of sites, including Edmodo, BetterLesson, TeachersPayTeachers, ShareMyLesson, and WeAreTeachers. There is a related movement toward provisioning a “teacher wallet” for purchasing content and related services.

Where these practices reinforce the individual practitioner model, they are not blended learning. They are part of an empowered and data-driven team. They may be transformational. But issues of quality, alignment, and scale need to be addressed.

It doesn't make much sense for new teachers to produce videos on the Harlem Renaissance, for example, when there is great content from the [Library of Congress](#), the [History Channel](#) and many other open sites.

Open Educational Resources

There are a growing number of comprehensive collections of open resources for K-12 instructional material across subjects. Here are just a few of the sites teachers can tap for open educational resources:

- [CK12.org](#)
- [PowerMyLearning.org](#)
- [GooruLearning.org](#)
- [KhanAcademy.org](#)
- [Hippocampus.org](#)
- [Curriki.org](#)
- [Engageny.org](#)
- [Oercommons.org](#)

Khan Academy also provides useful guides to walk teachers and school leaders through key decisions.

Ben Stern suggests five questions before filming a lecture.

1. *Why am I lecturing?*
2. *What are students doing while watching the video?*
3. *Would I watch the video?*
4. *Why do the kids need to understand this idea or skill?*
5. *What will we do in class that will take advantage of being together and also make use of the previous night's lecture?*



DEVICE ACQUISITION

With the advent of online assessments, device acquisition has become a greater priority for schools across the nation. Current trends favor the mobility of laptops and tablets, though larger screens and processing power of desktops can be preferable for tasks like video and multimedia production. Districts are increasingly turning to relatively inexpensive simple web appliances, like Google's Chromebook. With \$200 student access devices like these, it is affordable for every school to provide a device for every student. With all the free apps and open resources available, it is less expensive to go digital than to buy a stack of textbooks. [PARCC](#) and [Smarter Balanced](#) assessments support a 10-inch (not 7-inch) tablet, but also require a physical keyboard.³⁵

Device acquisition has become a high priority for schools transitioning to blended learning across the nation. Devices are a tool for delivering instruction and not an instructional solution. With that in mind, key elements such as curriculum, content, and instructional delivery should all play a part in program design. The device that is chosen should be able to deliver the elected design at the best value.

Device Planning

Assessing the current status of your technology, as well as future technology needs, is a helpful exercise in planning for devices. A better understanding of costs, usage, and repair rates will develop a clearer picture of how technology is currently being utilized, which can help guide future operation. Combining this information with a needs assessment can provide powerful data in helping to choose the right device. A needs assessment goes beyond common ratios like student-to-device and is meant to develop a deeper understanding of the types of skills and outputs the

devices are meant to promote. Questions similar to the two below will serve as a good starting point in determining need:

- What sorts of outputs do I expect students to produce on the devices?
- What types of tools and resources will our devices need to deliver in order to facilitate production?

Smart Procurement in Houston.

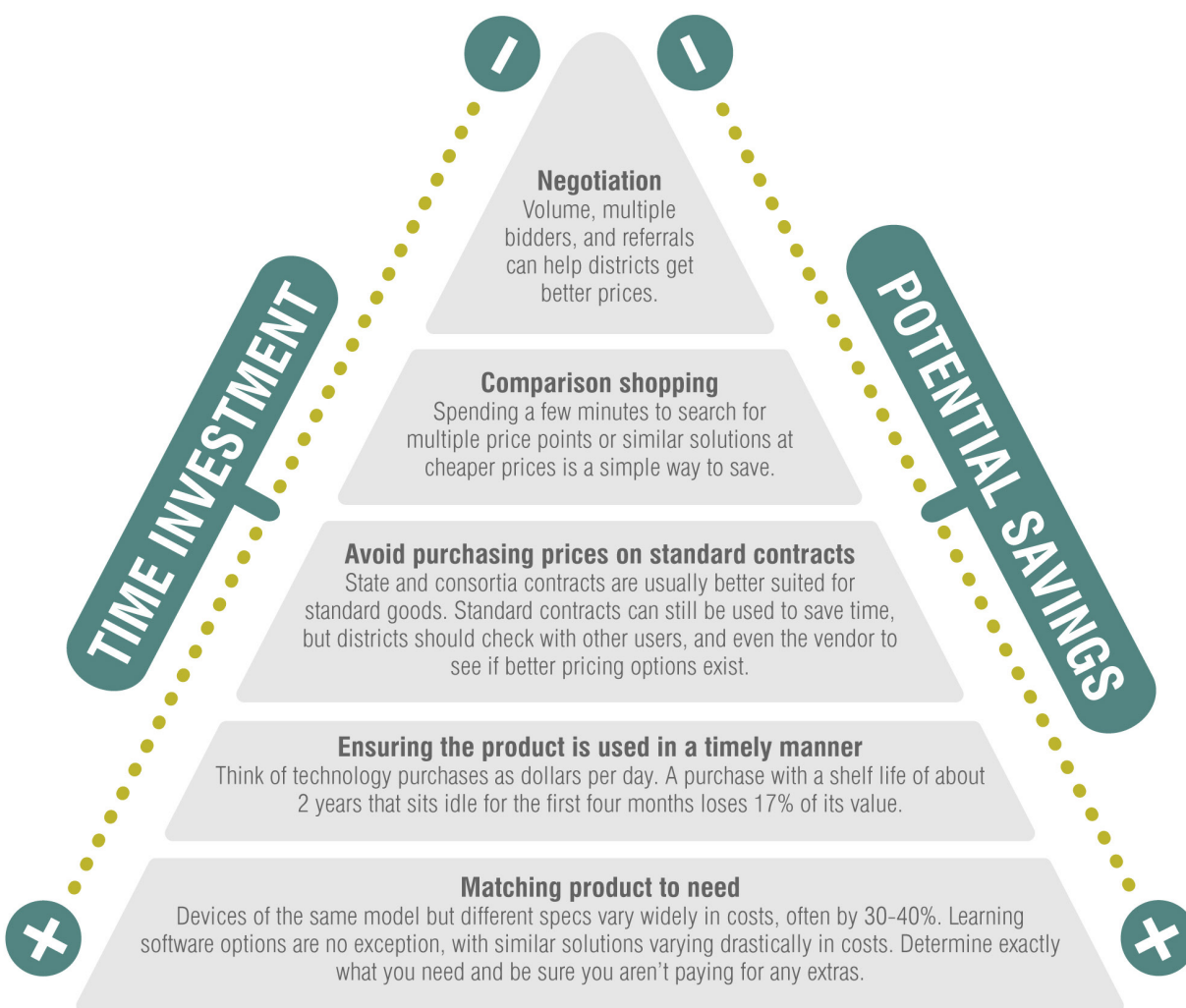
The Learning Accelerator's Snapshot of [EdTech Procurement in Houston Independent School District](#) describes how HISD followed many of the recommendations in the recommendations outlined in this guide. The snapshot outlines nice recommendations for districts, based on the lessons from HISD:

1. *Develop and share the vision across your district to get buy-in.*
2. *Learn from the experience of districts with successful deployments.*
3. *Know exactly what you need and communicate it clearly to vendors.*
4. *Plan for a lengthy and iterative process in order to get the best product at the best price.*
5. *Ensure effective communication between all departments involved.*
6. *Determine a single point of contact within the district to work with all of the vendors for a large purchase.*
7. *Be consistent during the technology roll-out.*
8. *Capture best practices, iterate, and improve.*
9. *Change take times. Not every student and teacher will be at the same level of readiness and some will take longer than others to get on board.*

The [CoSN-Gartner TCO tool](#) is a free web-based tool available to public and private schools that informs understanding of the "total cost of ownership." The TCO website offers additional resources on TCO including background information and case studies. Since its launch in 2003, more than 2,000 LEAs have used the tool.

Beyond the technology assessment, there are a few other major considerations:

- Lease or Purchase? Leasing generally allows for a smaller upfront expense, but a greater overall cost that is divided over the life of the device. Leasing also allows for more flexibility in switching devices once the lease has expired. Purchasing devices allows for greater flexibility in how devices are used and maintained but involves a large capital commitment upfront.
- Does a warranty make sense? Warranties can add significant costs to a device purchase. Some schools see tremendous value in outsourcing most device issues, while others are set up to support hardware issues internally.
- A user fee around \$25-50 has been adopted by some districts to cover insurance and can usually be paid in installments for those who need payment assistance. Some districts cover the cost for low-income families that request assistance.
- Do you have an acceptable use policy? Technology can deliver vast resources to our students, but also has the ability to do harm. As such, an acceptable use policy is incredibly important. See [these examples from Maine](#) for inspiration.



Source: Smart Series Guide to EdTech Procurement, available at:
<http://digitallearningnow.com/policy/publications/smart-series/>

Purchasing and Beyond

Devices should be considered an investment and not just an expenditure. Devices purchased today could still be enabling instruction five years from now. With this in mind, it is important to look beyond device price and understand the total cost of ownership over multiple years. Total cost of ownership involves direct costs, including: hardware, peripherals, operating systems and software (e.g., anti-virus, filtering), and installation and maintenance labor. Indirect costs such as financial and operation implementation support, professional development, direct support, and indirect support, (staff helping each other figure out the new systems), can also factor into total cost of ownership. Devices that appear to be the lowest price at purchase could end up costing significantly more in the long run.

Growing budgetary constraints require schools do more with less, and device purchasing is no exception. Understanding technology needs and total cost of ownership, when coupled with best-practices in purchasing, will facilitate acquiring the right device at the right price:

- **Bundling:** Manufacturers that discount devices may try to increase revenue by selling additional products and services. Purchase only what is needed; nothing more.

EdElements' [Hardware Analysis](#) helps districts choose the right hardware by offering the advice and tools on the following:

1. *Analyses of various devices, including iPads and both Mac and PC laptops*
 - » *Their costs, speeds, upgradability, scalability, etc.*
2. *Recommendations based on School District variables:*
 - » *District size, student ages, monetary and human resources, even district culture*
3. *Tips to consider before making your big purchase*

- **Due diligence:** Sourcing deals from multiple vendors increases competition and usually leads to discounts. A few extra hours of time could save thousands of dollars.
- **Contract purchasing:** Many pre-approved vendor contracts already exist at the state level and through consortia. These can be a great time-saver in managing procurement, but generally contract prices are set whether schools purchase one or one million units so be sure to negotiate beyond the listed price, if possible.
- **Aggregate purchasing:** Communicate with other school systems to see if the same device is being purchased; larger volumes can lead to larger discounts. Even single schools can save by making one or two bigger purchases per year instead of several small purchases spread throughout.

Device acquisition should be viewed as a recurring action and not a one-time event. Student and staff buy-in is essential for ensuring proper implementation. Continuing to track usage and monitor what works and what falls short will help greatly in deciding future purchases.

Bring Your Own Device

Bring-Your-Own-Device (BYOD) is another method of extending student access to technology by leveraging the existing resources--this time from students themselves. Students come to school every day with smartphones, tablets, e-readers, iPods, laptops, and more, but they are often forced to keep these tools in their pockets, backpacks, and lockers—or risk disciplinary action. Because the vast majority of secondary students bring their own device (BYOD) to school most districts have dropped their phone bans and allow teachers to decide when and how students can use phones in class. BYOD should be used to create a high-access environment—a three-screen day that includes a mobile device, a production device, and a large sharing/editing screen.

Improved access is one of the biggest benefits of BYOD. [Riverside USD](#) was a pioneer in using BYOD to boost access. As a district administrator David Haglund told students, “Bring what you have, we’ll make sure you get what you need.” They checked out devices and made provisions for connectivity for students that lacked access at home. In 2014, Haglund became Deputy Superintendent in [Santa Ana USD](#), a bigger denser poorer district. The first item he brought before the board was a redrafting of the district’s technology policies to allow BYOD and open access. While 80% of secondary students had phones, a large number did not have data plans on the phones. In response the district significantly expanded wireless access from 1 to 10 gigabytes per second. By fall 2015, access will be 20 Gbps by the fall to accommodate students who use more than one device during the day. While a BYOD strategy works for some students, Haglund found it necessary to provision a wider distribution of district-owned devices than they did in Riverside. In the last year they have moved the district from a 5:1 to 2:1 with 1:1 in grades 5-9. To boost home access the district is beginning to buy and distribute filtered wireless hot spots through the [EveryoneON](#) initiative (\$10/month home access). One hot spot often covers multiple students. Haglund estimates that they will have about 4,000 of those hot spots in homes by December 2015. The district is also working with the city to increase open wireless access in public spaces and outfitting the exterior of the schools to broadcast filtered wireless access into the surrounding homes. Haglund hopes for a citywide wireless solution.

In the spring of 2013, TLA invested in [TNTP](#) to develop guidance to help districts and schools rethink their human capital systems to support blended learning. The organization released its findings as a working paper in November 2014. This paper, [Reimagining Teaching In a Blended Classroom](#), and its accompanying tools were informed by visits to schools across the country and interviews with more than 60 practitioners and experts on the ground as well as TNTP’s work since 1997 helping school districts across the United States address their most challenging talent needs.

BYOD programs also present unique challenges—from increased IT support to the amplification of the digital divide. To ensure that every student has a device, BYOD should be combined with school-provided devices available for checkout and take-home use (with a parent-signed acceptable use form). BYOD schools with wide income disparities should seek to reduce any stigma associated with a school-provided device and should promote periods of group work and peer-to-peer learning. Security and cyber-bullying policies should be clearly spelled out in acceptable use guidelines as well.



STAFFING

Blended learning is a team sport. By creating an intentional shift to an online environment for a portion of the day, teachers can create more time to work together and, where most beneficial, create one-on-one and small-group learning experiences.

The blended staffing models outlined at [Opportunity Culture](#) extend the reach of effective teachers. The staffing models are designed to improve student performance as well as working conditions and career options for teachers. They may improve sustainability but could take several years to implement fully. New staffing patterns can be phased in along with improved student access to technology.

Each of the [blended school networks profiled by FSG](#) has implemented or is considering implementing a more differentiated ‘ladder’ of staffing that includes master and apprentice

teachers alongside instructional aides and lab monitors. For example, KIPP Empower, an elementary classroom-rotation model has developed a three-tiered staffing model with Lead Teachers, Intervention Specialists, and Instructional Assistants who work together to deliver different types of instruction to small groups of students in a variety of settings.

Differentiated staffing includes several levels, from paraprofessional to master teacher. Differentiated teams provide a high-support environment for new teachers and use technology to leverage the talent and experience of skilled and effective teachers.

One of Public Impact's models is focused on what the organization calls "[role specialization](#)." The goal of this model is to focus excellent teachers' time on the instructional roles that are the most challenging and critical for student success and on high-value non-instructional work related to student outcomes. In addition, focusing excellent teachers' time on the instructional roles in which each excels may magnify their effectiveness. Public Impact's [multi-classroom leadership model](#) is one in which school-based or remote instructional teams report to an excellent teacher.

[Summit Public Schools](#) has a skill-based teacher development system focused on what teachers need to know and be able to do to accelerate student achievement. Demonstrated expertise

across seven dimensions of the Summit continuum places teachers on one of four levels: basic, proficient, highly proficient, and expert. The measured dimensions of teaching include assessment, content, curriculum, instruction, knowing learners and learning (e.g., special ed, ELL), leadership, and mentoring.³⁷

With design support from TLA, the [Reynoldsburg City Schools](#) launched The Raider Fellowship Program, an initiative to develop and leverage teacher roles that have the potential to reallocate resources (time, talent, and energy) to places that impact student achievement the most. Competitively awarded, the fellowship and the application process purposely leaves a wide berth for the initiation of new ideas and instructional models, some of which are negotiated with principals and/or team colleagues. Fellows are teachers that demonstrate their high impact on student performance in one or more of several ways, for example, assisting a greater than typical number of students in a collaborative instructional strategy, accepting responsibility for multiple classrooms while providing instructional plans and coaching to the development of other teachers and staff, or providing outstanding research and data that inform educational programs. These high-impact educators are rewarded with a stipend of up to \$3,900, recognition as a Raider Fellow, and participation with other high-impact educators in cohort-based PLCs they help to design. Raider Fellows' instructional spaces are always open for learning and observation by other educators.

[Cornerstone Charter Health High School](#) in Detroit did away with classrooms and grade levels; "pods" of 75 students work in a large open space. Teacher teams include individuals filling three differentiated roles:

- Relevance Managers provide direct instruction and support students in the design and evaluation of real world projects and internships.
- Rigor Managers oversee online coursework, providing support and setting standards for mastery.
- Success Coaches work to help students make the transition to college and career, providing practical advice as students consider life after graduation.³⁷

Extending the Reach of Great Teachers

Recognizing that existing strategies cannot fill our classrooms with teachers as good as today's top teachers, Public Impact has proposed new school models that leverage existing talent with technology and job redesign. These models also create career paths that offer all teachers career advancement opportunities. Advancement allows greater impact on children and more pay—within budget. Public Impact has outlined 10 strategies for leveraging talent with technology. The report is available at www.OpportunityCulture.org.

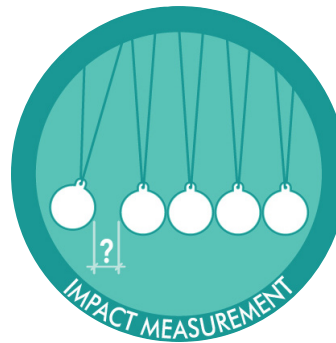
The [Alpha Public School](#) blended middle school approach centers on self-contained classrooms where teachers deliver instruction in all core content areas. One teacher stays with a class of 34 students throughout the day and throughout the year. During each lesson, a master teacher works with 17 students, engaging them through small group instruction and activities in one section of the room while the rest of the class works through online content at individual computers.

Newark's Touchstone ([now part of Matchbook Learning](#)) is another good example of differentiated roles. Teachers at Touchstone have a career path that goes from Associate Teacher to Master Teacher; Master Teachers can earn up to \$100k. Each Master Teacher is responsible for all students in a core content area and has teaching responsibilities, as well as training and developing other teachers. From a reach-extension perspective, one benefit of this is that all students have access to and learn from a master teacher in every core content area.

FSG notes that in addition to the general characteristics of great teaching, working in a blended environment requires additional competencies in data analysis and classroom management.

In addition to differentiated or specialized roles, many blended models utilize distributed staffing strategies. Distributed staffing—usually providing part-time services delivered at a distance—are useful in hard-to-staff areas, such as special needs and advanced courses.

A good blended learning plan includes a comprehensive approach to teacher development combining schoolwide and individual learning opportunities. Each staff member should have an individual development plan (like those available for free on [Bloomboard](#)) with access to a variety of just-in-time resources.



IMPROVEMENT AND IMPACT MEASUREMENT

In order to measure impact effectively and implement good continuous improvement plans, districts should address these elements from the beginning of the planning process. Program leaders should talk with key stakeholders about how the progress and success of the implementation will be measured, by whom, and when. This kind of input is essential in the planning process and can enable the necessary processes and data gathering to be designed from the beginning. If a third party will be involved in measuring the program's effectiveness and impact on student learning, that party should also be involved in the design process. (Note: there is more information on guiding the measurement process in the "Improve" section of this guide.)

IMPLEMENTATION



There are four critical implementation issues that all require a solid initial plan and ongoing flexible adjustments during implementation: infrastructure, integration, professional development, and support. It is important to keep in mind that the overall goal of a shift to blended learning is at its core about teaching, learning, and design – and not about hardware and software.



INFRASTRUCTURE

Issues behind the scenes that could limit progress if not properly provisioned include broadband access, power, networking equipment, and facilities. It may take time to make changes and upgrades, so districts need to plan ahead. Often underestimated, this is the critical starting point that enables digital learning!

Broadband

Any school or school district that is serious about being prepared for online assessments and digital learning needs to place broadband infrastructure at the top of their checklist. Your broadband bandwidth will dictate the quantity of students that can get online and the quality of their individual connections.

The State Education Technology Directors Association (SETDA) has drawn attention to the [Broadband Imperative](#). Currently, SETDA recommends 100 megabits per second (Mbps) for every thousand students, with a goal of expanding this to one gigabit per second (Gbps) in five years.³⁹ [EdElements](#) notes that “Providers recommend as high as 25 Mbps/100 concurrent users.” Of course, you’ll also want to ensure that your WAN and internal connections can handle your bandwidth goals as well. It’s important to assess broadband performance coming into the district, for each school, in each classroom.

[EducationSuperHighway](#) is a nonprofit organization that is helping school districts improve their broadband access. Schools can test their broadband speed on their site (www.schoolspeedtest.org). Additional helpful resources include: [Network Essentials for Superintendents](#) and [School Wi-Fi Buyer’s Guide](#).

Remember that any increase in the number of connected devices—including via BYOD initiatives—will increase broadband requirements. See the [CoSN Broadband Knowledge Center](#) for more advice. Your broadband needs will change very quickly as more of your students come online. Design for three years ahead, not just today.

Networking Equipment & Ongoing Management

Ongoing management of the network is a key driver of complexity and cost. Look for scalable networking solutions. It may be possible to aggregate service at the district, county, or education service agency. The ongoing maintenance and software issue of network management can be critical in terms of functionality, staffing, expertise, and cost. Districts should address wireless access points as well.

Technology changes rapidly, so routers from even a few years ago may not be sufficient.

Power

Do not underestimate the challenges of providing sufficient power to the classroom. Most classrooms are not set up for 25 laptops, and daisy-chained extension cords are dangerous and not scalable. Portable charging carts may be part of the solution. Sometimes buildings themselves will need to be upgraded or altered to safely provide the required power.

Facilities

Some implementations of blended learning will lead to changes to facilities. For example, upgrades in broadband or power may require structural changes to buildings. Schools that shift to larger student groupings may need larger classroom spaces with different configurations. Changes in facilities can be extremely expensive, and this work can uncover unanticipated problems and expense (e.g., asbestos) that can significantly affect schedule and

budget. Districts should be mindful of these potential impacts and assess the magnitude before making structural changes.

Other Hardware & Software

Depending on the instruction model, other accessories may be necessary. It's important to consider the installation and upgrade process required for each.

- Laptop carts to house and power laptops
- Interactive whiteboards
- Headphones to enable students to receive audio
- Security devices and antivirus software
- Cables



INTEGRATION

Integrating information systems is critical to making blended learning work efficiently. Integration of instructional applications with a student information system is most critical. Teachers need to be able to quickly generate a class list in a new application. Students need single sign-on. Machine scored, content-embedded, and teacher-observed assessments should be easily entered into a standards-based gradebook. Teachers, students, and parents should have access to an integrated reporting system.

Solutions in this area are still emerging, and should improve significantly in the coming years. Key challenges early adopters are facing at this point include:

1. Provisioning accounts for students. Schools talk about the challenge of keeping student lists accurate, making it easy to add students, and having this be something that can be done once for the whole system. The solution to this problem is integration between the learning software and the district's Student Information System (SIS). When this integration is in place, as soon as student enrollment and demographic records are updated in the SIS, they are automatically updated in third party learning software as well. This type of integration saves hundreds of hours of school personnel time over the course of a school year. Federated identity and access management is provided by applications like Clever and platforms like Edmodo free for schools.
2. Synthesis and visualization of data about student learning. While some of this is coming, and is being done in different ways in different programs, there is no integrated solution, which makes it extremely complex and burdensome for teachers.

Broadband Action Steps for Districts

1. *Assess your current broadband performance (for instance, take EducationSuperHighway's SchoolSpeedTest). Conducting a district audit can clarify differences across schools and identify patterns or systemic issues. Ideally, test each school site 10+ times at various days, times and locations.*
2. *Determine what your district can currently offer in terms of blended learning with its current broadband performance. Divide your broadband bandwidth at a school site by the number of students at the site.*
3. *Define your desired model and blended learning offering and determine the required bandwidth.*
4. *Make sure all parts of your network support your broadband bandwidth goal, including Internet access, WAN, routers and wireless access points.*
5. *Obtain funding support from the E-Rate program or other upgrade sources. All private or public schools are eligible for E-Rate funding.*



PROFESSIONAL DEVELOPMENT

Blended learning professional development extends far beyond simply showing teachers how to use new tools in their classrooms. In planning to implement a blended learning program, district and school leaders should consider the following planning dimensions to prepare all staff—instructional and non—for deep changes in the nature of teaching and learning.

Who: Target Participants

Transitioning to blended learning is a system-wide effort. Professional development should be targeted at helping all stakeholders understand and engage effectively in changing roles, even to ones that did not previously exist.

Key school- and district-level participants should include but not be limited to:

- Teachers
- Teacher Leaders
- Instructional Coaches
- Paraprofessionals and Aides
- Program and Implementation Managers
- School Leaders/Principals
- Deans and Student Support Staff
- Regional and Deputy Academic Superintendents
- Technology Professionals
- Procurement and Financial Services Professionals

What: Content and Competency Areas

Leaders need to educate staff about how the switch to blended learning will require them to work together in new ways. Professional development content should be targeted at helping them understand key challenges in the new model to design and implement solutions. While these challenges will depend on the

design of the blended learning approach (for example, a lab-rotation versus flex approach within the local context), staff will likely need to know how to:

- Design and manage learning in environments where students thrive.
- Differentiate resources and supports for individualized learning plans.
- Integrate new tools as well as keep up with ongoing innovation and new technologies.
- Get and provide customized support.
- Access and use real-time data to drive planning and interventions.
- Manage change.
- Communicate with diverse stakeholder groups (board, community, parents) about new approaches.
- Evaluate and procure/develop new tools and strategies.

In addition to helping staff understand the vision and change needed through content education, leaders will also need to provide structured development opportunities to build up the competencies that support success in implementation. In talking to blended learning practitioners and experts across the country, The Learning Accelerator (TLA) found that the vast majority (approximately 80%) of the competencies staff need to develop are the same as in more traditional learning environments; however, because of blended learning's focus on resource flexibility, mastery-based learning, personalization, and effective data use, there are some competency areas that are of higher emphasis and importance. Tools such as [TNTP's Rubric for Observing in a Blended Classroom](#) and [Highlander Institute's Classroom Walkthrough Tool](#) provide useful frameworks for evaluating these new unique competency areas.

Given this, TLA and iNACOL developed [a blended learning teacher competency framework](#) that identifies four essential competency areas—mindsets, qualities, adaptive skills and technical skills—that are linked to successful implementation. These domains are distinguished not only in content (the type of competency and how is it expressed) but also in how they are developed in individuals. A brief description of each domain follows.:

- **Mindsets:** Mindset competencies include the core values or beliefs that guide an individual's thinking, behaviors, and actions, and that align with goals of educational change and mission. In blended learning, practitioners need to understand, adopt, and commit to mindsets that help them shift towards new forms of teaching and learning.
- **Qualities:** Quality competencies are those personal characteristics and patterns of behavior that help academic staff make the transition to new ways of teaching and learning. These qualities, like grit, flexibility, and transparency, need to be coached, reinforced, and developed over time.
- **Adaptive Skills:** Adaptive skills are generalizable skills that apply across roles and subject areas. These skills—which include things like collaboration and problem-solving—are complex; they help practitioners tackle new tasks or develop solutions in situations that require organizational learning and innovation. They are mastered through modeling, coaching, and reflective practice.
- **Technical Skills:** Technical skills are domain-specific “know-how” and expertise that educators used to execute against the known tasks in their jobs. They are acquired and mastered through instruction, training, and practice.

TLA has found that support across these competency areas can often be uneven, so leaders need to make sure the development approach adequately addresses all areas. Many districts and schools tend to emphasize the development of technical skills (particularly technology training) and underemphasize other areas of competence (changing mindset, qualities, and adaptive skills). District and school leaders should begin planning with an up-front assessment of existing staff strengths and growth in these competency areas to prioritize support and strategy.

Finally, leaders must be sure to integrate new expectations for content knowledge and competencies into districts' strategic human capital management systems. Tools used to guide staff selection, placement, and development—including

teacher evaluations and classroom walkthrough assessments—should align coherently with the instructional vision. Examples of new rubrics being put to use in blended learning schools include the LoTiConnection's [H.E.A.T. Framework](#) and the [Arizona Technology Integration Matrix](#).

When: Timing for Support

Another planning dimension leaders should consider is how professional development resources should be utilized over time. Implementing blended learning, like any significant change in school practice, will require both initial up-front investments in support to engage and align staff around the vision and challenge as well as longer term ongoing investments to ensure that staff continue to grow and master the new instructional design.

Initial investments require the allocation of resources and time for training before and during early stages of implementation. If possible, leaders should engage staff during summer planning before the start of the year (if not earlier), as well as during shared development time and new staff induction. They should also allocate additional on-site resources to help teachers with technology trouble-shooting and instructional coaching during the school year.



Figure: The Learning Accelerator's Framework for Blended Teaching Competencies

Over time, after major initial changes are taken up and adopted by staff, districts will need to shift resources to longer-term staff collaboration and reflection. Staff should be given time to work together to identify lessons learned, share practices, and identify areas for further improvement and innovation.

How: Modalities for Training

While more traditional forms of development—one-day seminars or training sessions, in-person observation and coaching, on-site professional learning communities—may be appropriate given content and target audience, leaders should also consider other forms of development that allow for greater customization as well as for staff to gain experience “blending” their own learning using a combination of online and offline.

Given this, leaders should identify, or encourage staff to explore, a variety of non-traditional resources. Blended development approaches could include the following (Note: specific products and examples are provided for illustrative, not recommendation, purposes):

- Blended professional development providers (such as [Ed Tech Leaders Online](#), [Alvo Institute](#), the [Highlander Institute](#), [Knowledge Delivery Systems](#) and [Relay GSE](#)).
- Online platforms that individualize development plans and allow staff to search for and find specific professional development content and resources on-demand (for example, such as [Bloomboard](#), [TeachBoost](#), and [Edivate](#))
- Online videos that profile teacher practices, (such as [BetterLesson Master Teacher Project videos](#) and [Highlander Institute Playlists on Blended Learning](#))
- Online learning networks and professional learning communities (either created internally through in-district social networks or national communities and platforms like [edWeb](#), [Edmodo](#), [Twitter](#), and [Ning](#))
- Remote mentoring and coaching (such as has been piloted in the New Teacher Center’s [e-Mentoring for Student Success program](#))

- Online coursework, including Massive Open Online Courses (MOOCs) (such as the Friday Institute’s [MOOC-ED](#) program, [Coursera’s professional development](#) courses and [Blended Learning MOOC](#), or the Sloan-C [Blended Mastery Series](#)).



TECH SUPPORT

New access devices (laptops and tablets) are easier to manage and update than they were a decade ago, but the increased number and type of devices requires planning, a commitment of resources, and a commitment to service on a daily basis.

Experts in school tech support recommend publishing a short list of devices the district agrees to support and building or buying a thick layer of do-it-yourself online and phone support resources. Maine and Mooresville purchased a layer of online and phone tech support with the devices. Denise Shorey of [CoSN](#) said she’s seeing more leasing deals that include support and insurance.

In addition to online support, districts and schools with loads of less than 1:500 devices should hire tech support specialists. [SETDA](#) Executive Director Doug Levin warns policymakers not to “confound instructional tech coaches—focused on helping teachers to use tech well—with tech support, the folks who fix the stuff that breaks.”

Many district IT departments are essentially “maintenance” for devices and networks. Strategic IT is very different and districts need to make sure they have that capacity.

Students, especially secondary students, should be formally engaged in tech support roles, which can provide valuable work, service, and leadership experiences for young people. For twenty years, [Generation Yes](#) has been structuring and supporting active student roles in supporting their instructional technology.

Finally, if the district encourages students to bring their own devices, it should be made clear in the acceptable use policy that the district doesn’t provide tech support for parent- or student-purchased devices.



IMPLEMENTATION SUPPORT

Implementation of a blended learning environment is a complex task. Many processes, tools, and trainings need to be pulled together to enable teachers and students to thrive in classrooms. This challenging, time-intensive work requires dedicated attention, resources, and specific skills.

A program management office should have an individual assigned to providing and monitoring implementation support—technology, instruction, staff development, and communication.

Districts should consider making at least one program manager in charge of the entire implementation and accountable for its success. This requires clear authority, accountability, and a skill and experience set that is quite specialized and may be rare in districts. The support of the superintendent and influence with key stakeholders (principals, teachers, IT staff) are also critical: these individuals need to have sponsorship from the very top and have the authority and influence to be successful.

The implementation role will change over time, as the effort moves from the planning phase through implementation to support. The number of people working on the project, and their time commitment and roles, will evolve. Do not expect that implementation will be complete when the initiative is launched at the beginning of the year. In cases where there is a phased rollout over a number of years, it may be a bit more complex, since the first schools will be out of planning and implementation and moving toward support while the next waves will still be in planning and implementation (although they should be able to leverage the lessons from the initial wave). Be sure to allocate sufficient project management resources for this work.

Implementation and the supporting project management may require more resources than districts expect. [FSG found](#) that “technology infrastructure needed to support blended learning requires more time and resources than originally expected.” The implementation is also part of a broader culture change for schools and should be considered in this context. [FirstLine](#), for example, cites the school’s positive culture as the most important driver of its success.

As the program matures and the school successfully completes its work in implementation, the focus can shift from implementation to assessment of impact.



CULTURE

Culture remains key to creating and sustaining high performing schools. It can easily translate to greater or lesser productivity—and more or less effective teachers—in the classroom. Yet, culture is one of those things that all organizations say is important, but it is easily ignored or forgotten in the daily grind of running a business, non-profit, or school district.⁴⁰ While a great culture won't supplant the operations and policies required of blended models, it is an important determinant of success. Following are 10 key ingredients of a high performance culture:

- **Values:** “We’re a values first organization,” said Bill Kurtz, CEO of [DSST Public Schools](#). “Each human being strives to be fully known and affirmed for who they are, and to contribute something significant to the human story. Character starts with the adults.” That means core value commitments, modeling, 360-degree evaluations, and celebrations.⁴¹ Blogger Susan Lucille Davis says time, trust, and connections are what teachers want most.⁴²
- **Equity:** Good schools engage all students—not just honor students—in powerful learning experiences; they develop academic mindsets scaffolded by strong supports. According to principal Stephen Mahoney, “The accomplishments of Springfield Renaissance School’s students prove that a child’s zip code does not determine his or her destiny.”
- **Innovation:** Schools will need to build cultures of “failing forward, faster” undergirded by next-gen human capital development. “We’re committed to lean startup strategies,” said Diane Tavenner, CEO of [Summit Public Schools](#). In support of what Tavenner calls, “Build, measure, learn cycles,” each course, grade level, and school team receives a weekly data packet in Google Drive for ease of visualization, including student demographics, progress in courses, and assessment results. Course teams from all six Summit schools meet weekly via videoconference.
- **Good habits.** [Launch Expeditionary Learning Charter School](#) starts the day with Crew, a 30 minute advisory period where they practice and talk about the shared Habits of Heart and Mind central to the Launch culture: accountability, craftsmanship, wonder, mindfulness, and compassion. The Habits are integrated into the culture and every learning experience at Launch.⁴³
- **Care:** Mooreville, North Carolina receives attention for their successful “digital convergence,” but culture is the secret sauce. “Schools with a sense of spirit thrive,” said superintendent Mark Edwards. “Tech plans will collapse without a strong cultural foundations.” Edwards, whose enthusiasm is infectious, says, “The works starts with love and care for students.” They use [Capturing Kid’s Heart](#), a professional development (PD) program from the [Flippen Group](#) that has infected the language of the district.⁴⁴
- **Big questions:** “We want people to be perplexed—to embrace the paradox of starting new schools,” said High Tech High founder Larry Rosenstock. Great schools, like DSST Public Schools, incorporate this “perplexity” into the curriculum that, according to teacher Jim Stephens, “requires empathy, ideation, and prototyping before they can arrive at a solution—they learn that they can solve any problem, in or out of school, with this approach.”

- **Support:** New employees in Mooresville are paired with a mentor. Tech facilitators at each school focus on needs of new employees. One teacher said, “The best part of the PD was having a Tech Facilitator at my beck and call.”⁴⁵
- **Collaboration:** [Rocketship Education](#) teachers receive an average of 250-300 hours of professional development each year.⁴⁶ New teachers learn all the tools that students use, CEO Preston Smith said, “Time is also spent on data analysis, real-time coaching, co-teaching with school leaders, collaborating with our Individualized Learning Specialists and special education teachers, and integrating our online programs into instruction.”
- **Mastery:** “Culture is incredibly important. Success [Academy] teachers are positive, enthusiastic, and believe in kids,” Eva Moskowitz of Success Academy explains. “We have a culture of daily mastery—we believe children should intellectually struggle with challenging content and the teachers should insist on mastery.”⁴⁷
- **Execution:** “If we’re really going to meet the needs of children every hour, every minute, it takes executional competence to deliver at that high level—it’s much more profound than most people realize—it requires enormous execution talents,” said Moskowitz.

Education reformers talk a lot about breaking the old “factory model” of schooling, but factory mentalities are more likely to usurp or stall blended learning without attention to a re-engineered culture.



COMMUNICATION

Effective communications is a cornerstone of successful blended learning implementation. Strong two-way communications builds engagement, trust and credibility. Poor communications can lead to unmanageable expectations, confusion, and opposition to innovation. Communications is not expensive, but it takes a commitment of time and consistency.

MaryEllen Elia, superintendent of the [Hillsborough County Public Schools](#), said, “We are strong implementers because we listen to people; we meet constantly to get feedback and are very involved in the community.”⁴⁸ Relationships with employee groups are very strong. “Employees feel loyalty to the district, the schools and the kids,” said Elia. “We are problem solvers, we work through issues before they get to be a big deal.”

Your most important initial step is to make proactive communications about your blended learning program a district priority. Reflect this priority in the district’s blended learning implementation plan and share this priority with elected boards, principals and staff. Include a communications coordinator on your blended learning implementation team and have them be responsible for developing and executing your comprehensive communications strategy.

The Learning Accelerator has developed a [10-step guide to creating your own blended learning communications plan](#). A summary of these steps follows:

- **Communications vs. Engagement**

Communications should not be just one-way, from you to your audiences. Work to create two-way conversations that build true engagement with your stakeholders.

If the district doesn't have a staff advisory group, the shift to blended learning is a good time to develop one. Build a community advisory committee of influential parents and business leaders. It may be worth developing an edtech committee that includes community experts.

- **Communications Goals**

Establish clear communications goals that are deeply connected to your blended learning goals and your district's overall strategic plan for student learning. Districts often fall into the trap of talking more about the technology than the transformation of teaching and learning that occurs with blended learning. Your communications goals should focus primarily on building understanding and support for blended learning's role in achieving your district's definition of student success.

- **Communications Resources**

Assess your district's communications capacity and identify existing communications resources, as well as gaps in your capabilities and/or expertise. This process can be as deeply thorough or as high-level as you have time for, but the important step is to know what communications tools and resources you have at your disposal to execute your blended learning communications plan.

- **Stakeholder Audiences (Identify, Know, Reach)**

Identify and understand your key audiences, what they care about, and how best to reach them. Stakeholders include school leaders, teachers, parents, community members, and students.

- **Key Messengers**

Although the Superintendent is the official "messenger" for the district, identifying and preparing other trusted messengers to deliver key messages about your blended learning program is essential. For example, according to a recent PDK/Gallup poll, teachers and principals are the most trusted messengers for parents.

- **Key Messages**

Articulating a clear message that captures the core reason behind your blended learning program is enormously helpful in building understanding and support for your efforts. Segmenting these messages by audience will ensure the information you are sharing is the most compelling.

Review [The Learning Accelerator's Blended Learning Messaging Guide](#) for sample messages targeted to key audiences.

- **Storytelling**

One of the most powerful ways to communicate your key messages is through storytelling. Think about ways to deliver your key messages through visuals, video and vivid language. Using real-life characters (students and teachers) and a compelling plot will translate your messages into an inspiring story that your audiences will remember and respond to.

"The future world will be video driven. It might not be "live action" video. It might just be a text message that's now layered over a background image," said Adam Renfro of North Carolina Virtual. "Communications will become robust data packages that better 'reach' their audience and stick with them after the communication is complete." Renfro suggests leaders should be sophisticated users of video communication and fully incorporate it into blended learning environments.⁴⁹

- **Timeline**

As you develop your communications strategy, be sure to link the communications timeline to your blended learning implementation timeline. Overlay your calendar of implementation events with your communications milestones, activities, and tasks.

Start a routine blended-learning email blast to establish at least monthly communication. Houston superintendent Terry Grier sends out a weekly blast and posts a blog. They include updates on the district's big blended initiative, [PowerUp](#).

- **Issue Spotting**

Engaging with your stakeholders is an ongoing effort and it pays to try to spot issues ahead of time that may be of growing concern. Implementing blended learning could cause apprehension for certain audiences and districts should continuously survey the landscape to be prepared to address emerging fears or misunderstandings.

- **Success Metrics**

How you determine if your communications efforts are succeeding depends on what goals you set in your strategy in Step 2. If parent or community awareness was a goal, consider doing a survey at the beginning of your implementation efforts and again periodically thereafter to gauge effectiveness. Similarly, a teacher “listening tour” at the beginning and mid-way points of your implementation efforts can highlight communications successes or problems.

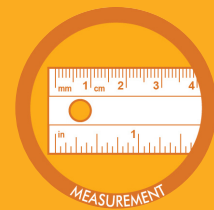
The Highlander Institute leveraged its District Competencies Framework to build blended learning Classroom Walkthrough Tools aligned to district-level competencies rather than teacher-level competencies. Since blended learning initiatives require a deep partnership between district leaders and classroom teachers, these tools are meant to help administrators understand their role in raising the ceiling for teacher practice. Generated data will quantify the systemic movement (or lack of movement) of the district, not just the isolated progress of a few teachers. Summarized data can then inform district-level priorities and decisions.

IMPLEMENTATION SUCCESS FACTORS

After thoughtfully considering the six decision points (strategy, model, platform, device, staff development, impact measurement), five steps will improve the likelihood of successful implementation:

1. Hold a kick off meeting: Clarify goals, responsibilities, timeline, and budget.
2. Create clear program management responsibilities: Assess whether there is an individual on the staff with the required skills and experience in complex program management to be successful.
3. Set up a program management office: Link academics, tech, finance, and communications and maintain management team involvement and support.
4. Stay flexible: Update your plans based on feedback and opportunity.
5. Stick with it. This will be a multi-year process, leading to the transformation of teaching and learning in your schools. It will take time and there will be many bumps in the process. Be persistent!

CONTINUOUS IMPROVEMENT



Continuous improvement is a critical part of any effective organization, and it is particularly important when innovation is happening. Ongoing learning and improvement should be a central part of the mindset of teachers and administrators implementing blended learning.

It is important to assess implementation at each step by asking key questions:

- Is it working? Why or why not? How do we know?
- How could we improve it next year?
- Are teachers pleased with the implementation?
- Do teachers believe student learning has been positively impacted?
- Are more students engaged in deeper learning experiences?

Schools working with blended learning need to review data and iterate on a regular basis; otherwise, the initiative may bog down, lose support, and not reach its potential.

The FSG [profile of Summit Public Schools](#) notes, “Leaders have encouraged the faculty to experiment with new blended learning ideas and suggest improvements to Summit’s approach.”

The [Alliance for College Ready](#) “promotes ongoing innovation through an action research process in which staff search for problems in the model, take action against them, and learn from the many refinements made along the way,” says FSG.

“Blended learning is changing how schools are designed and how students learn across the country. Yet despite an influx of interest, capital, and new learning models, the movement has just scratched the surface of how technology can help students succeed in school and beyond,” concludes FSG.

The employment of a continuous improvement process is key to forming high quality blended learning models and scaling them over time. Design-Development-Research is just one method schools and districts can use to develop and test blended learning innovations in such a way as to quickly foster alignment and coordination of supports for improving teaching and learning.

The strategy, in brief, relies on collaboration and continuous feedback loops among practitioners, researchers, or others to make timely, coherent adjustments to models. Hypotheses about how a particular blended model will work are formed and tested in the classroom under normal conditions. Teachers look for what works well, identify persistent problems, register any surprises they experience, and develop and try out solutions to improve the model in iterative fashion. Feedback can be collected through a variety of means, including real-time dialogue, weekly surveys, interviews, and data derived from the learning systems. The feedback, data, and learning from each cycle (rapid-testing weekly cycles, more formative monthly cycles, and 90-day deeper learning cycles, for instance) is applied to continuously improve the model.

How to Successfully Scale Personalized Learning: Six Key Lessons from Effective Programs, produced by Fuel Education™ in partnership with Getting Smart, explores blended and online learning at scale. Researchers interviewed a wide range of schools and districts and captured key lessons related to scaling programs across schools and even districts to extend learning opportunities for all students. The paper features:

- *A framework for scaling personalized learning*
- *The six key lessons from the trenches on scaling personalized learning*
- *Interviews with educators who have successfully scaled online and blended programs*
- *Benefits being realized today by schools and districts who are scaling their programs*
- *Recommendations for school leaders and educators who wish to scale*

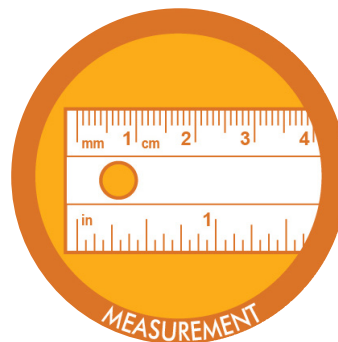
Researchers Penuel, Fishman, Cheng, and Sabelli note that teachers' adaptations of models at the classroom level, not leaderships' plans, largely determine a model's effectiveness. Even the best of models "on paper" require iteration to meet the demands of reality. The quality of blended offerings will mature, but implementation problems will almost certainly persist—especially as models go to scale due to the adaptations teachers make and the variations in environments. The collaborative nature of design research firmly positions practitioners as co-designers of solutions to problems that could impede the evolution of high quality (in this instance) blended models.

CAPTURE LESSONS LEARNED

The program management team should be charged with leading regular reflection on what is working, what's not, and what lessons have been learned. Since blended learning is so new and increasing numbers of districts are starting to innovate and implement, this is now particularly critical. These lessons need to be documented so they can be shared across the organization, applied in future years, and shared with others across the country to advance the learning of the field.

Relevant questions include:

- What worked better than expected?
- What has been more challenging than expected?
- What promising practices have we identified?
- Have we achieved expected savings?
- What can we do differently and better?
- How and at what intervals will the lessons be documented?
- Who should lessons be shared with?
- How can we be proactive about standardizing information for better sharing and use over time?



MEASURE CHANGES

Although it is never too early to start measurement work, it will take time to gather accurate, meaningful data about any changes to teaching and learning that the initiative is related to, so set appropriate expectations with stakeholders. Managing expectations may be difficult—there is often pressure to show results immediately, which is unrealistic. Instead, pursue a continuous improvement framework through a progressive series of assessments: activities, processes, and then outcomes.

When determining metrics and measures for any of the following, consider:

- ***Your objectives for implementing the initiative.*** All metrics (including those for activities, outputs, processes, and outcomes) should be aligned with your objectives. Choose measures that are reliable and valid for the ways in which you intend to use them, wherever possible.
- ***Possible comparison groups for contextualizing your results, and understanding why you may be seeing what you're seeing.*** Comparison groups don't have to be randomly assigned (although that's the ideal). They can be matched groups (students at similar or the same schools and districts), norm groups (expected or national average scores from standardized tests), or even pretest groups (scores from your students before the initiative was implemented). All of these groups tell you something about what your results might have looked like if you hadn't implemented the initiative. Measuring as much as you can (even activities and processes) in your comparison

group as well as in your participating group allows you to see what is different about your initiative, and what might be related to changes you are observing (whether positive or negative).

- **Metrics or data that you might already be collecting, which are aligned with your objectives.** You may find that classroom rubrics already include information about your initiative's activities or outputs, or even processes. You might be able to use benchmark tests as outcome measures when that time comes.

Start by assessing *activities and outputs*:

- How many classes and schools are going blended, and how is this increasing over time?
- How many students are in blended classes and how many teachers are changing their practice?
- How many online resources are being used by teachers and students? How many PD opportunities for teachers?

Then move on to *processes*:

- Are we able to consistently and repeatedly implement blended learning for specific subjects and grades?
- Are we able to effectively scale the work to increasing numbers of classrooms and schools?
- Do we have sufficient clarity about our work that we can execute it smoothly and effectively every year?

Once significant progress has been made in defining processes and implementing them consistently with fidelity, start measuring outcomes, from short-term to long-term:

- How are students responding to blended learning? Engagement? Excitement? Interest level?
- How are teachers responding? Are they excited? Do they feel like they are having more impact with students? Are they feeling supported?

Some of the existing research on blended learning is compiled in TLA's Blended Learning Research Clearinghouse. What type of research should we be doing on Blended Learning?⁵⁰

1. *Better growth measures.*
2. *Better gradebooks and profiles.*
3. *Profiles of current successful models.*
4. *Research on existing technology uses.*
5. *Classroom trials of the instructional practices involved in or facilitate by blended learning that are related to improved outcomes.*
6. *Studies to determine if there are subgroups of students, schools, or teachers for whom blended learning is more or less effective.*
7. *Policy research.*

Begin measuring long-term impacts on student learning once the implementation is stable and all processes are working; otherwise the drivers of positive or negative change will be unclear: is it because blended learning "is" or "isn't working" for some reason, or because it is or is not being implemented effectively? In addition, long-term impacts (for example, an improvement in state test scores), cannot be achieved without achieving short-term outcomes first, (e.g., mastery of individual or micro- reading standards); so again, understanding the drivers of change can only be done in the context of near-term results.

Finally, don't underestimate your ability to add to the evidence about blended learning. Consider ways you might disseminate your results beyond your own district, so that others can benefit from your work as well.

CULTIVATE FUTURE INNOVATION

While effective implementation of blended learning will offer significant improvements in learning for students, it is not the end state; rather, it should be viewed as a step in the ongoing process of innovation in education. Accordingly, TLA and 2Revolutions have created a [self-assessment tool](#) for schools and districts that provides leaders with a place to start. The tool helps leaders 1) take stock of their readiness to innovate and 2) build and track progress in creating a culture of innovation over time. Creation of a culture of ongoing innovation is an essential part of the American education system in the 21st century, and implementing blended learning is a great step in this direction. Educators should keep these questions and processes in mind:

- What new problems have arisen that need to be solved?
- What opportunities have become apparent that could be seized?
- What processes will be used to identify these problems and opportunities?

Define processes for conducting innovation:

- Who will do the work of creating innovations, testing them, and documenting lessons?
- What resources will be applied to this work?
- How will innovations be incorporated into ongoing processes over time?



MULTIYEAR BUDGET

Develop and monitor a multiyear budget by phase, by account, and by school. Determine a metric for financial success (e.g., sustainability on public dollars within three years). Track progress toward financial sustainability, and make adjustments as necessary to reach targets.

Districts should research the work of others and learn from their budgets—the structure, the process, and the figures themselves.

Closely track the work of current firms who are conducting research on blended learning and financial sustainability such as [Afton Partners' work with EDUCAUSE](#) and the [Center on Reinventing Public Education's](#) 18-month analysis of NGLC winners.

CONCLUSION

Blended learning is more than electronic textbooks and productivity tools. It means inventing or adopting new learning environments that work better for students and teachers. Blended learning implies a shift to an online environment for a portion of the student day. It means giving students more control over the pace, path, time, and place of learning.

Implementation of blended learning is about bringing to life fundamental shifts in teaching and learning. The goal is to personalize learning using modern technology and expand learning opportunities in the context of college- and career-ready standards. School and district leaders need to lead a community conversation that results in decisions on strategy, model, platform, device, and staffing.

Blended learning is a good complement to the next generation of assessments. This shift to online assessment creates the opportunity for better data to inform short-term instruction and long-term accountability efforts, while measuring achievement against internationally benchmarked standards for college and career readiness. But there is another prospect available: using next-generation assessments as a pivot point to expand access to technology, shift to digital instructional materials and tools, and move toward personalized learning

opportunities for all students. New tests create a timeline. The combination of digital content and digital assessment provides more than sufficient rationale (benefits and savings) to support an increase in improved access to technology.

Implementing blended learning is a complex program of work requiring integrated plans around teaching and learning, information technology, finance, human capital, and communications. A phased-in plan requires professional management and the commitment of school and district leadership. A commitment to measurement and improvement suggests that plans will be adjusted as lessons are learned and new tools are developed.

Although an increasing cadre of schools and districts are transitioning to blended learning, we are just beginning to explore and assess its transformative potential at scale. As the body of knowledge related to the shift toward more personalized, blended and competency-based learning models grows, resources like this one will continue to document emerging best practices to enable districts across the country to develop and implement models of blended learning, offering students everywhere the promise of a better education.

APPENDIX

BLENDED LEARNING IMPLEMENTATION RESOURCES

BLENDED LEARNING CASE STUDIES & PROFILES

Christensen Institute: Blended Learning Profiles
<http://www.christenseninstitute.org/wp-content/uploads/2013/04/The-rise-of-K-12-blended-learning-emerging-models.pdf>

Making Math Work: K-8 Blended Learning
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Forsyth County Schools BYOT Video Tour
<http://www.forsyth.k12.ga.us/byotresources>

FSG: Blended Learning in Practice: Case Studies from Leading Schools
<http://www.fsg.org/tabid/191/ArticleId/799/Default.aspx?srpush=true>

Public Impact, Opportunity Culture Case Studies
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Next Generation Learning Challenges Grantee Profiles
<http://nextgenlearning.org/discover-grantees>

Rogers Family Foundation: Oakland Unified School District Blended Learning Pilot
http://www.rogersfoundation.org/system/resources/0000/0022/BlendedLearning_final.pdf

USEFUL WEBSITES FOR IMPLEMENTATION SUPPORT

Anytime Anywhere Learning Foundation
<http://aalf.org/>

Aspire Blended Learning Handbook
http://www.blendmylearning.com/wp-content/uploads/et_temp/aspire-blended-learning-handbook-2013.pdf

Blend My Learning
www.Blendmylearning.com

CEE-Trust
<http://www.blendedlearningnow.com/>

Educause Toolkit
<http://net.educause.edu/ir/library/pdf/NGT1303.pdf>

Edutopia "How To Integrate Technology" Guide
<http://www.edutopia.org/technology-integration-guide-implementation>

Microsoft Partners in Learning Innovation Workshops
<http://www.microsoft.com/education/en-sa/partners-in-learning/Pages/index.aspx>

One-to-One Institute
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125 Top Blogs on Blended Learning
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