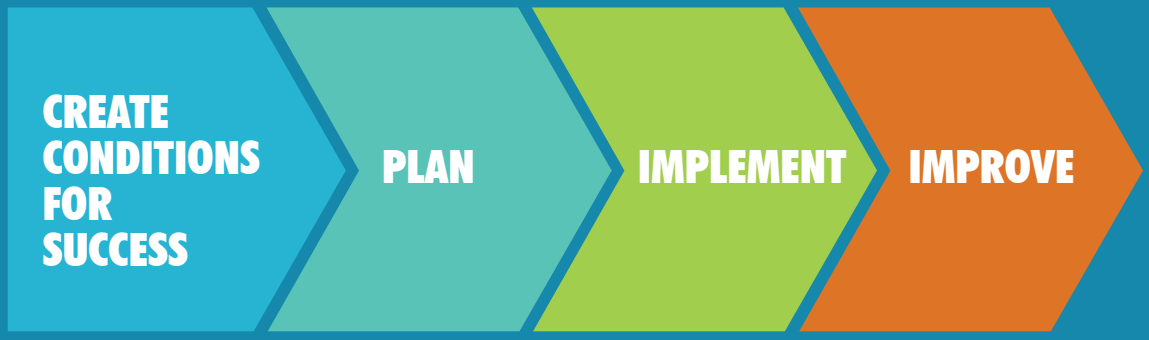
DIGITAL LEARNING NOW!

DLN SMART SERIES

BLENDED LEARNING IMPLEMENTATION GUIDE



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This is the fifth paper in a series of interactive papers that provides specific guidance regarding the adoption of Common Core State Standards and the shift to personal digital learning.

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We invite you to test this guide in your school or district and let us know how we could improve it to make it work even better for you. Please send your feedback to SmartSeries@GettingSmart.com.

We also welcome your comments on our blogs and your interaction on our websites and through various social media channels.

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EXECUTIVE SUMMARY

A recent 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 extended. Learning will be more personalized, and the reach of effective teachers will be expanded.

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 to ensure that the right resources and interventions reach the right students at the right time.

Schools that make the most effective use of new technology will adopt a model of blended learning—"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: Innosight Institute).

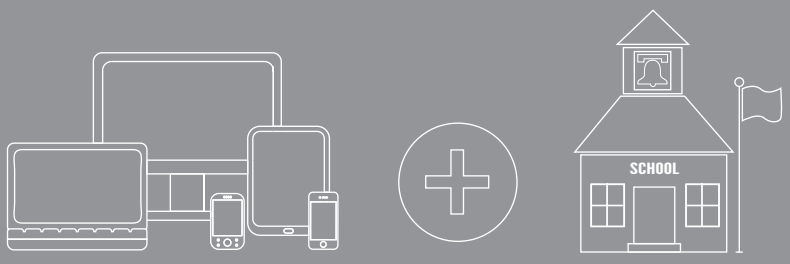
Compared to high-access environments, which simply provide devices for every student, blended learning includes an intentional shift to online instructional delivery for a portion of the day in order to boost learning and productivity. Blended learning means rethinking how class is structured, how time is used, and how limited resources are allocated. Productivity in this sense includes improvements to teacher access to data and its potential to inform instruction, greater student productivity with less time wasted on skills already mastered, and overall system productivity from the standpoint of increased learning opportunities and improved student outcomes.

As we discussed in Getting Ready for Online Assessment, the next generation of online assessment for common college- and career-ready expectations in 2015 creates a good pivot point for the shift to digital instructional materials and blended learning models.

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.

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 1.0. The authors intend to capture and update best practices as more schools make the shift.

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.

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INTRODUCTION

Blended learning, according to the Innosight Institute, 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."[2] To differentiate it from virtual schools, they add "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 A U.S. Department of Education meta analysis found that students in fully online courses outperformed those in face-to-face courses, and those blended courses outperformed the fully online students.

10 DRIVERS OF BLENDED LEARNING

1. Improve ability to personalize learning
2. Potential for individual progress
3. Improve 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 improve working conditions
8. Decrease 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: Innosight Institute). 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 learning and operational productivity.

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 a sequence of multimodal learning experiences queued by a smart recommendation engine driven by a comprehensive learner profile.

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).

Watch the Video
The Basics of Blended Learning

Publicly available on YouTube
courtesy of Education Elements

The blended learning intervention Read180 has several studies that met the rigorous What Works Clearinghouse standards which 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.

STATE POLICY MATTERS

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.

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. 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.

Watch the Video *Technology Revolution: Carpe Diem & Blended Learning*

Footage from EdNation used with permission, available on the Digital Learning Now Video Library

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.

Digital Learning Now!, a state policy framework, recommends that states:

- Support full- and part-time access to online learning.
- Eliminate seat-time requirements.
- Provide end-of-course tests on demand.
- Provide weighted, portable funding.
- Shift to digital instructional materials.
- Contribute to student access to devices.
- Support expanded broadband access.

ROOM TO GROW

In the broadest sense, any learning sequence that combines multiple modalities is blended, but as noted above (and in the "Definitions and Terminology" exhibit), 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 by providing 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 that classes can 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.

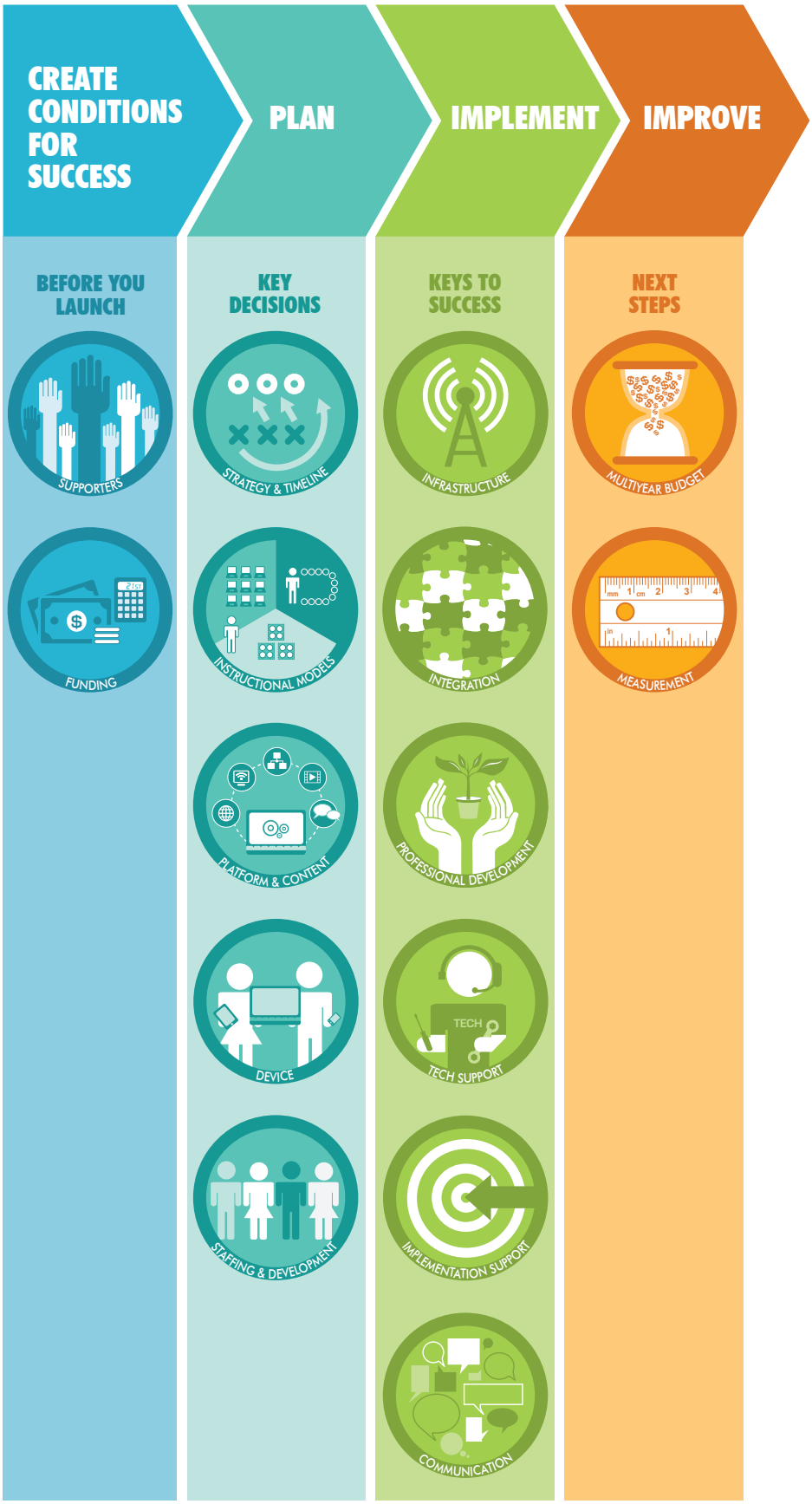
Creating and supporting the opportunity for secondary students to take online courses (advanced, credit recovery, and options) is considered blended learning in this guide because it may require a new use of space, time, and resources. It also includes a shift in delivery that may be more productive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

Other papers in this series have dealt with specific issues of devices, data, and online assessment. Upcoming papers will delve into staffing, school finance, and online learning. This DLN SmartSeries will be bundled as an ebook this summer, with periodic updates offered thereafter.

EXHIBIT: BLENDED LEARNING IMPLEMENTATION DECISIONS



CREATING CONDITIONS FOR SUCCESS

Blended learning implies a big, complicated, multifaceted project. 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 connecting the shift to blended learning with overall district goals to improve college and career readiness by employing technology to create more personalized, deeper learning opportunities. 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, they imply a focus on communication, they focus on growth for all students, and they 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. Staff surveys can help identify critical starting points, including:

- Staff confidence with new learning and productivity tools;
- Early impressions about student engagement and learning;
- 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 Blended Learning Budget Toolkit from Education Elements provides districts with an overview of the costs of blended learning, a description of the types of funds available to support it, and a series of worksheets for district leaders to determine how they could fund their blended learning efforts.

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 a six-month 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 to help you learn fast and adapt the plan as issues emerge.[3]

Efforts to build support for blended learning should include seven groups of stakeholders: the superintendent, the school board, teachers, the teachers' union, principals, leadership schools, and the community. 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 Innosight Institute report Classifying Blended Learning and visit (at least using video) leading blended learning models.
- **Teacher support:** Build teacher 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.
- **Union support:** Build union support by reviewing Opportunity Culture models, discussing differentiated staffing and the potential for improved working conditions and career opportunities.
- **Principal support:** Build principal support by supporting a professional blended learning experience like Abeo's Innovative Principal Network.
- **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 PTA, 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.

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. As noted in Funding the Shift to Digital Learning, providing laptops to all students costs about $250 per student per year; tablets cost less. While 1:1 models offer significant benefits, elementary schools using a rotation model may require only a 1:3 ratio.

10 Strategies for Boosting Affordability

1. Phasing in changes over three years can make the transition manageable and allows the district to capture savings that help pay for additional phases.
2. Shifting to online instructional materials may offer savings, particularly if open education resources are incorporated.
3. A transition to predominantly online professional development is another source of savings.
4. Project RED enumerates paperwork reductions in a list of possible savings.
5. Review software usage and discontinue or reduce investments in products that are not being used by all schools.[4]
6. 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.
7. Districts should maximize E-rate funding for all eligible services.
8. Leverage School Improvement Grant funding.
9. For computer and tablets that go home with students, a user fee of $50 will cover the cost of insurance.
10. For faster schoolwide implementation, consider leasing as an option.

Grants can help. E-Rate may be a source of funding for improved broadband. Look for grants from national programs like Next Gen Learning Challenges.State Race-to-the-Top funds and other state grants may be available. Engage local foundations. DigitalWish has supported 30,000 classrooms and has resources for building high-access environments.

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 may take several years to implement fully. New staffing patterns can be phased in along with improved student access to technology.

While it is tempting, avoid using long-term construction bonds to fund computers—you'll be paying for them for 30 years! Renewable tech levies, where they are available, are a more rational 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 testing 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.

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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.

New Common Core online assessments begin in the 2014-15 school year for most states. This milestone provides an opportune calendar for the shift to digital instructional materials, allowing two or three years to phase in a high-access environment (a computer or tablet for every student).

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.

Project 24 is an urgent call to action on the need for systemic planning around the effective use of technology and digital learning to achieve the goal of 'career and college readiness' for all students." The Alliance for Excellence in Education launched Project 24 as part of its Digital Learning Day.

The Project 24 framework helps districts address seven areas:

1. *Academic supports*
2. *Budget and resources*
3. *Curriculum and instruction*
4. *Data and assessments*
5. *Professional learning*
6. *Technology and infrastructure*
7. *Use of time*

The "24" in Project 24 represents the next twenty-four months, during which the nation's education landscape will change greatly as states and districts implement college- and career-ready standards for all students, utilize online assessments to gauge comprehension and learning, deal with shrinking budgets, and contend with the demands of states' waivers from key provisions of the No Child Left Behind Act.

An enterprise approach can feel like a series of top-down directives, but Mooresville Superintendent Mark Edwards has developed a collaborative culture that values teacher engagement.[5]

Portfolio. The alternative to the unitary enterprise approach is a portfolio of different school models; districts like New York, New Orleans, and Denver have taken this approach. Alex Hernandez, Charter Growth Fund, says a portfolio strategy is "the most fertile ground for educational innovation."

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.

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."[6]

Turnaround. 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.[7]

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.[8]

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.*

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 City 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."[9]

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 school-wide 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."[10]

Pearson has incorporated blended learning strategies into its Schoolwide Improvement Model.

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.

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.

Improving computer access at 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.

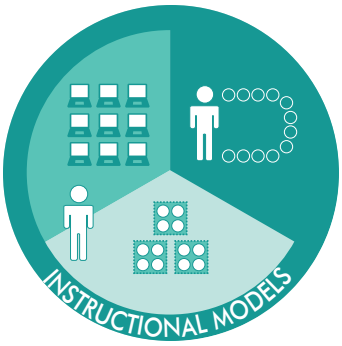
Multiple pilot projects can be used to test deployments and demonstrate new learning environments. It is helpful to have a local blended learning environment that teachers and parents can visit.

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?*



SCHOOL & INSTRUCTIONAL MODELS

Education leaders should lead conversations that determine the best model or portfolio of models for their school community. 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. Blended learning models intentionally integrate technology to boost learning and leverage talent; they don't just layer technology on top of business as usual.

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.

Flex schools have a digital curriculum that may be supplanted 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.

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."[11]

In addition to flex and rotation, Innosight Institute describes a third model, "self-blend," in which students choose online courses to supplement traditional offerings. 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 supplement traditional offerings. Some seek college credit opportunities, while others are recovering a missed credit. Scott Benson 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."

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

Rotation Models

Providing an inside view of blended integration at Rocketship Education, 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."[12] To promote individualized learning, Rocketship students spend two hours per day in a learning lab using adaptive software including Dreambox, ST Math, and i-Ready.[13] Staffing the learning lab with Americorps volunteers allows Rocketship to pay teachers more and provide better coaching.

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.

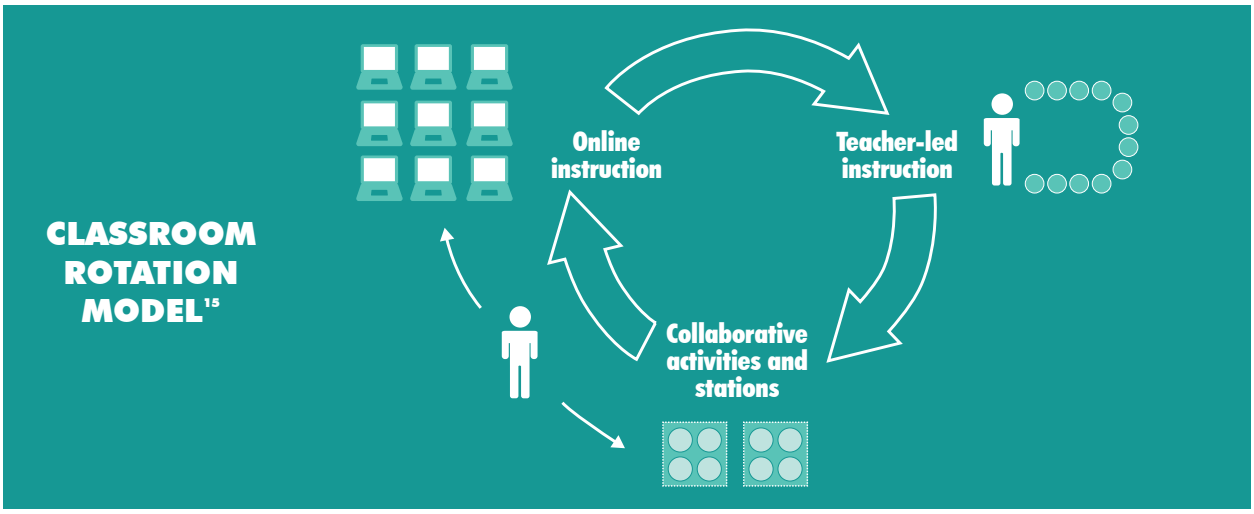
Carpe Diem secondary students rotate between teacher-led workshops and an individual workstation powered by e2020. Founder and director Rick Ogsten says, "Rather than nursing students to passing grades, teachers here act as doctors creating surgical interventions or as personal trainers extending and deepening learning."[14]

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.

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 (now powered by New Classrooms), a computer algorithm, some use of asynchronous activities, and dynamic scheduling make it possible for teachers to teach small-group lessons to students ready for that lesson, on that day, in that modality. 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. Innosight Institute's definition of the rotation model can even be applied to some flipped classrooms: "Students rotate on a fixed schedule between face-to-face teacher-guided practice (or projects) on campus during the standard school day and online delivery of content and instruction of the same subject from a remote location (often home) after school."[16]

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.

- **Summit** will debut 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. Students move at their own pace and augment online work with projects, tutoring, and work-based learning.[17]
- 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.[18]
- Flex Public Schools, powered by K12, combines online courses with onsite support and guidance.[19]
- Nexus, a flex-plus model from Connections, features success coaches, personalized instruction, and personal fitness.[20]
- 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."[21]
- Schools For the Future, uses a mastery approach combining a personalized instructional model with "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."[22]

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 highlighted above 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 several variables that have proven important: integrating data from face-to-face and online instruction and planning student movement carefully to maximize instructional minutes.

PLATFORM AND CONTENT

Device and platform choices will limit the types of instructional resources and services available to teachers and students. Conversely, picking content first 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 but without a single sign-on, reporting, and management capability.

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, lots of productivity tools, and an array of support services.

This feature set can be predicted based on eight 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., BrainHoney, e2020, Desire2Learn)
2. Social learning platforms adding functionality (e.g., Edmodo, Schoology)
3. Blended learning platforms (e.g., Education Elements, Buzz, Vschoolz)
4. Instructional improvement systems (e.g., Shared Learning Collaborative, Instructional Improvement Systems in North Carolina, New York)
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, Wireless Generation, MasteryConnect, Naiku)
8. Grade-level collections and tablet bundles (e.g., GooruLearning, PowerMyLearning, Amplify)

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 rostering/grouping for teachers.
- 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.

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.

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 discuss thus far have been engineered by networks with the expectation of high-fidelity implementation. But 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. Where 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 is also worth considering existing sources before producing content. 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, universities, the History Channel, and many other open sites. On the other hand, teams of teachers sharing lessons that leverage open resources may be extremely productive.

Next-generation learning platforms will have 10 features:

- *Single sign-on*
- *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*

Questions to ask content and learning services vendors[23]

1. *How is your product/service aligned with the Common Core (or college- and career-ready standards)? How much was developed with Common Core in mind?*
2. *How does your assessment compare to the consortia preview of Common Core assessment?*
3. *How will this content/service enhance students' learning experience?*
4. *How are you helping teachers implement Common Core in their classrooms?*
5. *Who is developing your Common Core 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.

Open educational resources

There are a growing number of comprehensive collections of open resources for instructional material, particularly in secondary math and science. 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*
- *TheGateway.org*

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?*

PICKING A DEVICE

With the introduction of popular consumer tablets in 2010, the device question got more interesting. Before picking your device, get clear about your goals. Start with program design. Have a serious conversation about the kind of work you want students to do. How will they show what they know? What roles will they take on?

Common Core standards require students to read complex text and to write about them using evidence—a task much better suited to laptops. Video and multimedia production is much easier on a laptop (and even better on a big desktop—a case for a three-screen day). PARCC and Smarter Balanced online assessment will support 10-inch (but not 7-inch) tablets but will require a physical keyboard.[24]

Cost and engagement favors tablets. They also feature instant on, long battery life, and a price tag about half that of low-end laptops. However, some popular web applications don't run on tablets yet—check before you buy![25]

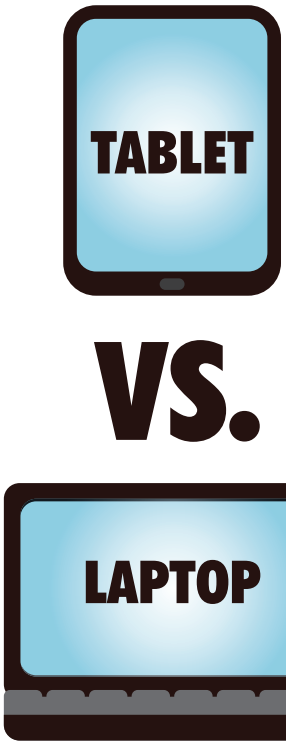
There are some critical questions to ask before making a device purchase:

1. Will content you want to use work on the device you want? For instance, Flash-based content may not play on Apple devices. Some adaptive software doesn't have mobile apps.
2. Lease or purchase? Use leasing to avoid phasing improved access.
3. Will you charge a user fee? A $50 user fee is common to cover insurance.
4. Do you have an acceptable use policy? A culture of acceptable use is even more important. Encourage students to bring their own devices (BYOD) to create a high-access environment.

As noted in Funding the Shift, 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. Forward-thinking teachers and school leaders are realizing that student tech tools should be seen as assets rather than liabilities, and they are leveraging these devices with bring-your-own-device (BYOD) policies that improve access by building on the existing resource of student-owned devices.

BYOD will improve student access, but it won't necessarily close the digital divide without a good plan. 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.

Schools should purchase at least enough devices to support state online assessment on a reasonable schedule and support the baseline instructional needs of the school. 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.



- + CHEAPER, INSTANT ON
- + TOUCH-ENABLED, ENGAGING CONTENT
- − NOT ALL WEB APPS WILL RUN, WEAK APP MANAGEMENT
- − NOT AS POWERFUL FOR PRODUCTION, TYPING ON SCREEN
- − SMALL SCREEN, HARD TO WRITE TO TEXT

- + BETTER PRODUCTION CAPABILITIES
- + LARGER SCREEN, FULL KEYBOARD
- − SHORTER BATTERY LIFE, LONGER BOOT-UP
- − MORE EXPENSIVE

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.

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 teacher's 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 (i.e., special ed, ELL), leadership, and mentoring.[26]

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.[27]

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."

Touchstone 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 characteristics of great teaching in general, teaching 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.

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.

DLN SMART SERIES

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. This is the critical starting point that enables digital learning!

Broadband

The State Education Technology Directors Association (SETDA) has drawn attention to the Broadband Imperative. It's important to assess broadband performance coming into the district, for each school, in each classroom. SETDA recommends at least 100 megabits of broadband per thousand users before online assessment begins and ten times that much five years from now.

Education SuperHighway is a nonprofit organization that advocates for better broadband access. Schools can test their broadband on the site. The type of software to be used and the number of students simultaneously accessing the Internet will impact bandwidth requirements.

Broadband Action Steps for Districts

1. *Assess your current broadband performance (for instance, take the National School Speed Test from EducationSuperhighway). Conducting a systematic audit across the district can clarify differences across schools and identify patterns or systemic issues.*
2. *Determine what your district can currently offer in terms of blended learning with its current broadband performance*
3. *Define your desired model and blended learning offering and determine the required bandwidth (or use the SETDA figure as a target).*
4. *Assess the potential to get funding from E-rate or other sources for upgrades, and ensure that you have the knowledge and resources to obtain these funds.*
5. *Work with partners to upgrade their broadband performance. If other organizations work with the district to offer supplementary programs that depend on technology, be sure they have the required broadband functionality and other foundational capabilities.*

Educational leaders who are designing teacher-training tools can learn from blended learning models in corporate settings. For example, Skillsoft describes 8 Phases of Workplace Learning that can easily be translated into the school setting.[28]

Phase 1: Prepare Me
(The Readiness Phase)

Phase 2: Tell Me
(The Presentation Phase)

Phase 3: Show Me
(The Demonstration Phase)

Phase 4: Let Me
(The Practice Phase)

Phase 5: Check Me
(The Assessment Phase)

Phase 6: Support Me
(The Assistance Phase)

Phase 7: Coach Me
(The Experience Phase)

Phase 8: Connect Me
(The Collaboration Phase)

Remember that BYOD initiatives will increase broadband requirements. See the COSN Broadband Knowledge Center for more advice.

Requirements will change quickly! Design for three years ahead, not just today.

Power
Do not underestimate the challenges of providing sufficient power to the classroom. Most classrooms are not set up for 25 laptops, and daisy-chaining extension cords is 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.

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.

Most district use policies require students to use the filtered district network. A few, like Riverside USD, allow students to bring their own network (BYON).

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 also 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 hold and power laptops
- Interactive whiteboards
- Headphones to enable students to receive audio
- Security devices and antivirus software
- Cables
- Music keyboards

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 in the coming years should improve significantly. 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.

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.

PROFESSIONAL DEVELOPMENT

All school staff members should have access to model-specific learning experiences. Blended learning professional development isn't just about showing teachers how to use new tools and technology in their classrooms; rather, it's about preparing teachers for deep changes in the nature of teaching and learning. Key areas of focus include:

- Differentiated instruction
- Skillset required for classroom management in a rotational model
- Evaluating resources
- Facility with adaptive instruction and tools

Here are some sample topics.

Teachers
- Mindset: How to create environments where students thrive
- Skillset: How to use new tools
- Data: Using real-time data about student learning to drive educational interventions

Teacher leaders
- How to support teachers in blended classrooms
- How to create and manage blended schools
- How to manage change
- How to manage communications with diverse stakeholder groups (board, community, parents)

IT support staff
- How to set up blended environments
- How to support these systems
- How to keep up with ongoing innovation and new technologies

Other staff
- Program managers
- Procurement

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. With their commitment to Apple laptops, Maine and Moorseville purchased a layer of online and phone tech support with the devices. Denise Shorey, CoSN, said she's seeing more leasing deals that include support and insurance.

In addition to online support, districts and schools should hire tech support specialists with loads of less than 1:500 devices. 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 engaged in formal ways 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 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. There are many processes, tools, and trainings that need to be pulled together to enable teachers and students to thrive in classrooms. This challenging, time-intensive work requires dedicated attention and 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 and accountability and also 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 roll-out 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 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 require 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.

COMMUNICATION

Effective communications with a broad range of stakeholders is essential throughout the entire process. Stakeholders include school leaders, teachers, parents, community members, and students.

Start a regular blended-learning email blast and at least a monthly community communication.

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 should be explicitly addressed at particular phases of implementation:

- Initial consideration of blended learning plans
- Program definition and decision making
- Implementation, including regular updates
- Measuring and sharing impact

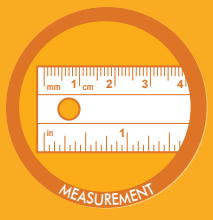
IMPLEMENTATION SUCCESS FACTORS

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

1. Hold a kick off meeting: Clarify goals, responsibilities, timeline, 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.

DLN SMART SERIES

CONTINUOUS IMPROVEMENT



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 doing blended learning need to review data and iterate on a weekly basis, at least; otherwise, the initiative may bog down, lose support, and not reach its potential.

The FSG profile of Summit Public Schools notes that "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.

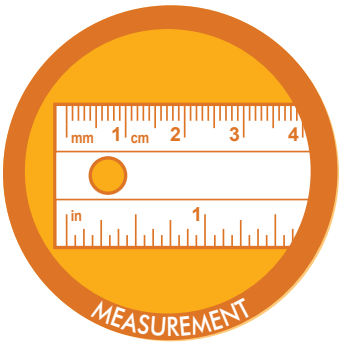
"Blended learning is changing how schools are designed and how students learn across the country. Yet despite an influx of interest, capital, and new learning models, the movement has just scratched the surface of how technology can help students succeed in school and beyond," concludes FSG.

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. 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 will the lessons be documented?
- Who should lessons be shared with?



MEASURE IMPACT

It will take time to gather accurate, meaningful data about the impact of the initiative on student learning, so set appropriate expectations with stakeholders. Managing expectations may be difficult—there is often pressure to show results immediately, which is unrealistic.

Begin measuring impact once the implementation is stable and all processes are working; otherwise the driver of low impact will be unclear: is it because blended learning "isn't working" for some reason, or because it is not being implemented effectively?

CULTIVATE FUTURE INNOVATION

Assess opportunities for future innovation:

- 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 new innovations, testing them, and documenting lessons?
- What resources will be applied to this work?
- How will new 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.

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 the Common Core and other emerging standards and technology requirements. School and district leaders need to lead a community conversation that results in decisions on strategy, model, platform, device, and staffing.

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.

Blended learning is in its early days. Districts across the country are just beginning to explore it and assess its transformative potential. Similarly, this document is just a start. Over the coming months, this implementation guide will be updated based on lessons learned by districts and practitioners across the country. Several additional detailed papers on topics such as elementary models, secondary models, blended math, and blended humanities are also in the planning stages. Over the coming years, this body of documentation and emerging research will enable districts across the country to develop and implement models of blended learning, offering students everywhere the promise of a better education.

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APPENDIX

APPENDIX: BLENDED LEARNING IMPLEMENTATION RESOURCES

Blended Learning Case Studies and Profiles

Michael & Susan Dell Foundation: Blended Learning Case Studies http://www.msdf.org/programs/urban-education/initiatives/united-states/blended-learning/

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

Innosight Institute: Blended Learning Profiles http://www.innosightinstitute.org/media-room/publications/blended-learning/blended-learning-profiles-all-profiles/

Next Generation Learning Challenges: Breakthrough Models http://www.nextgenlearning.org/wave-iii

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

Research

U.S. Department of Education: Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

Useful Websites for Implementation Support

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

Epic-Ed, Implementation https://www.epiced.org/implement

The Learning Accelerator http://learningaccelerator.org/

Microsoft Partners in Learning Innovation Workshops http://www.is-toolkit.com/workshops.html

One-to-One Institute http://www.one-to-oneinstitute.org/

Project 24 http://www.all4ed.org/project24

Project Red http://www.projectred.org/

Are there additional resources you would like to see on this list? Email us at: SmartSeries@GettingSmart.com.

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