CompetencyWorks ISSUE BRIEF

Maximizing Competency Education and Blended Learning:

Insights from Experts

WRITTEN BY:
Susan Patrick
Chris Sturgis

March 2015

iNACOL International Association for K-12 Online Learning

CompetencyWorks

Acknowledgements

Although only two authors are listed, the insights in this paper are an accumulation of the knowledge and creativity of the twenty-three experts who convened in May 2014 to discuss how to accelerate the transformation of districts and schools to personalized, competency-based, blended learning models. Thus, all the following participants should be considered contributing authors. We are tremendously grateful to all of them.

Judy Bauernschmidt,
Colorado eLearning Collaborative

Jane Bryson,
Education Elements

Kim Carter,
QED Foundation

Rose L. Colby,
Competency Based Learning Specialist

Justin de Leon,
Education Elements

Joe DiMartino,
Center for Secondary School Redesign

Kristin Floreno,
Matchbook Learning

Julia Freeland,
Clayton Christensen Institute

Bruce Friend,
Ignite Learning Partners

Liz Glowa,
Education Consultant

Anna R. Hall,
Springpoint

Alison Hramiec,
Boston Day and Evening Academy

Akili Moses Israel,
Diploma Plus, Inc.

Samantha Olson,
Colorado Legacy Foundation

Linda Pittenger,
Center for Innovation in Education

Amanda Poole,
The Parthenon Group

Allison Powell,
International Association for K–12 Online Learning (iNACOL)

David Ruff,
Great Schools Partnership

Tom Ryan,
eLearn Institute

Rick Schreiber,
Re-Inventing Schools Coalition

Bryan Setser,
2 Revolutions

Jeffrey Tsang,
Mastery Design Collaborative

Ephraim Weisstein,
Schools for the Future

We also want to thank the staff and students at USC Hybrid High for sharing their time and insights so that we might all better understand the journey to personalized education. Finally, we thank Tamara Berry, copywriter extraordinaire. Her guidance and creativity were invaluable.

About CompetencyWorks

CompetencyWorks is a collaborative initiative drawing on the knowledge of its partners and advisory board. The International Association for K–12 Online Learning (iNACOL) is the lead organization with project management facilitated by MetisNet. We are deeply grateful for the leadership and support from the partner organizations American Youth Policy Forum, Jobs for the Future, and the National Governors Association. Their vision and creative partnership have been instrumental in the development of CompetencyWorks.

For more information on competency education, you can visit CompetencyWorks, read previous issue briefs on the topic, or visit the CompetencyWorks Wiki for an in-depth look at the working definition.

This report is based on research funded in part by the Carnegie Foundation, the Nellie Mae Education Foundation, and the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors Susan Patrick and Chris Sturgis and do not necessarily reflect positions or policies of the funders.

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MAXIMIZING COMPETENCY EDUCATION AND BLENDED LEARNING: INSIGHTS FROM EXPERTS

I. Introduction

Our students will face enormous challenges in the coming years—from an economy shaped by ever-advancing technologies to the impact of globalization—and need the strongest foundation of academic, technical, and problem-solving skills we can offer. In an effort to improve their educational experiences, schools across the country are exploring and implementing new approaches, many of which share a common goal: to provide greater personalization[1] and ensure that each and every student has the knowledge, skills, and competencies to succeed.

Personalized learning, blended learning, and competency-based learning are becoming of increasing interest to district leaders at the front of transformation efforts. These efforts rely on support and direction from a limited pool of technical assistance providers in the field. Technical assistance providers are individuals or organizations with expertise in their respective fields who are charged with providing implementation assistance such as strategic planning, training, resources, and direct assistance to schools and districts. Each provider has expertise in some areas; few have expertise in all of them. Thus, the implication for districts is that the transformation process is staggered to allow for the implementation of one major strategy and then another, rather than taking on a broad-sweeping comprehensive approach.

In May 2014, CompetencyWorks brought together twenty-three technical assistance providers to examine their catalytic role in implementing next generation learning models, share each other's knowledge and expertise about blended learning and competency education, and discuss next steps to move the field forward with a focus on equity and quality. Our strategy maintains that by building the knowledge and networks of technical assistance providers, these groups can play an even more catalytic role in advancing the field. The objective of the convening was to help educate and level set the understanding of competency education and its design elements, as well as to build knowledge about using blended learning modalities within competency-based environments.

This paper attempts to draw together the wide-ranging conversations from the convening to provide background knowledge for educators to understand what it will take to transform from traditional to personalized, competency-based systems that take full advantage of blended learning. Our primary focus here is to address the key considerations that face districts as they move forward. We consider the discussion offered here as a first step in a very steep learning curve that we will be making to fully maximize competency-based structures and blended learning modalities.

You can learn more about competency education at CompetencyWorks.org, as well as find links and materials for all the resources mentioned in this paper on the CompetencyWorks wiki.

II. Why Do We Need to Transform Our System of Education?

Every district that begins the process of transformation must identify the multiple reasons that call for educators, students, and parents to become comfortable with new structures for learning. The world has changed immensely since the traditional school system was developed. All students need to graduate from high school and be prepared for some level of post-secondary education if they are going to access family-wage jobs. We live in a world that demands us to challenge inequity in its many forms—across income levels, racial and ethnic groups, by gender, and among students with special educational or language needs. We are driven to increase what our children need to know and be able to do so that they (and our nation) can compete in a global economy, and to strive for deeper learning so that students can tackle complex problems.

We have learned that the traditional education system itself creates hurdles for students and schools. It's no longer viable to rely on one-size-fits-all curriculum or move students on in age-based cohorts regardless of if they need more time or have the prerequisite skills for the next grade. The traditional A–F system is designed to motivate students extrinsically through competition rather than by developing intrinsic motivation, leaving many students with huge gaps in foundational content knowledge. Others may be so discouraged as to disengage from learning and school.

Our nation's path to greater personalization is also catalyzed by new opportunities and research. Technology has dramatically changed the potential of how we can deliver instruction and assess learning, allowing us to rethink our methods of providing highly effective instruction at any time and any place, opening up opportunities to personalize education and enabling us to stretch learning beyond the classroom and school day.

In addition, research in two areas challenge the format and assumptions upon which our traditional schools are based, offering new possibilities for how to engage, motivate, and support student learning:

1. **Research on Brain Development, Learning, and Teaching:**[2] Research tells us that students have much more potential for learning from birth to adolescence than we have ever understood before. We know that all students can learn, even though they may acquire knowledge in different ways and different timeframes. Emotions are now understood to be part of the learning process, so we need to help students discover how to understand themselves as learners and to manage their emotions. We know we can foster learning by creating cultures of learning and strong relationships, and by offering opportunities for active engagement, challenging tasks, and frequent and formative feedback. Building higher order skills—such as analysis, problem-solving, and creativity—require opportunities to apply and adapt skills to challenging problems in new contexts.
2. **Research on Motivation and Engagement:**[3] We know that our mindset about whether our intelligence is fixed or can grow based on effort shapes how we learn. Fixed mindsets limit us; growth mindsets enable us. When students understand themselves as having agency and choice, they begin to own their learning and are more motivated and engaged. Helping students to develop intrinsic motivation creates resilience that can be sustained as they become more independent learners. Mistakes become an inherent part of the learning process rather than an outcome. The social context of learning and relationships can engage students. Creating environments in which success is the only option breeds continued self-efficacy, which influences esteem, attitude, and motivation.

Thus, it is important for education innovators to weave together these strands—research on learning and developing higher-level skills, motivation theories, education technology, and ways to serve historically underserved students—into new learning models that personalize education, expand opportunities for learning beyond the classroom, and restructure schools so that students receive the instructional supports they need to become proficient every step of the way. New learning models aren't just about technology; yet technologies in blended learning modalities can power and bring new models to scale in ways never before possible.

III. What Is the Best Way to Approach the Transformation to Personalization?

> *The purpose of the personalized learning framework is to open student pathways and encourage student voice and choice in their education. Personalized learning is enabled by instructional environments that are competency-based. By tapping into modalities of blended and online learning using advanced technologies, personalized learning is enhanced by transparent data and abundant content resources flowing from redesigned instructional models to address the standards. By doing this, new school models can unleash the potential of each and every student in ways never before possible.*
>
> Mean What You Say: Defining and Integrating Personalized, Blended and Competency Education[4]

Managing Change, Managing Innovation

One thing shared by districts and schools approaching personalization by converting to blended learning or competency-based structures is their need to manage change and innovation. Although the specific tasks ahead of them may differ—blended learning requires much more knowledge and decision-making around technology, online learning, and digital content; while competency education focuses on deconstructing the traditional system and creating a new structure of learning—both are long-term change strategies that support personalized learning.

In the discussion among technical assistance providers, we identified change strategies and the capacity of districts to manage change as one of the most important—if not *the* most important—element for successful implementation. Below are just a few of the issues that were raised regarding how districts can manage the conversion to blended learning and/or competency education.

A. Community Engagement and Communication

Districts have often used techniques that generate buy-in through one-way communication and meetings where reforms are introduced. However, in introducing competency education models or personalization as a large-scale change process, one-time buy-in is unlikely to work, especially when implementation problems arise.

In an interview with Robert Crumley, Superintendent of Chugach School District in Alaska, he found that the biggest mistake districts moving towards performance-based systems make is that they fail to invest adequately in community engagement.[5] According to Crumley, the goal should be to create a shared understanding of why change is needed, what parents and community members want for their children, and how district leaders can work together to build a shared purpose for all stakeholders.

This requires districts to upgrade their community engagement divisions to engage others in dialogue. District and school leadership will also need to build the capacity for ongoing dialogue regarding the shared purpose and for managing shared decision-making.

B. Decentralizing Local Education Agencies: School Autonomy and Supports

A core theme across our discussions about personalization was that student agency and the changes in the role of educators required greater school autonomy and a change in the district culture from compliance to support. Increased access to data and responsibility in the hands of teachers means that they must be able to use their professional judgment, and schools must have the flexibility to quickly respond to the needs of their students.

Whenever we talk about personalization, the student is, and always will be, at the center of decision-making. Students with agency who are developing the skills to manage their education require teachers and schools to be responsive to their needs and preferences. Thus, teachers and schools need to be similarly empowered by the school district. Instead of thinking about student agency as an underlying theme in school design, it should be considered an explicit driver of new learning models, whereby districts can shift the locus of control closer to students.

Another important and related aspect is how structural changes within districts can clarify autonomy and accountability between districts, schools, and teachers. When districts develop well-defined competencies, learning progressions, and systems of assessments, there is opportunity throughout the system for greater autonomy on the part of schools, teachers, and students. Schools have the opportunity to organize learning experiences in new ways, including schedules, calendars, and staffing roles. Schools should have the autonomy (and accountability) for hiring and developing a team of educators, developing and managing a budget, and creating a schedule that responds to their student population. Teachers should have the autonomy (and accountability) for delivering instruction and assessing students within the established district competencies. Students will then have more opportunities to learn and demonstrate their learning in different ways, as well as move on to more advanced academic levels regardless of their grade level.

When districts create greater autonomy (and accountability) for schools, they will likely find that it makes sense to explore changes in the structures and policies of finance, human resources, procurement, technology, building design, calendars, scheduling, and professional development around designing new school models. As space for innovation opens up, school leaders will be helpful in identifying where changes in district policies and operations are needed. District leadership will likely find that they will need to develop more inclusive decision-making strategies. As districts move towards personalization, it is important to maintain open processes for identifying barriers and supports that enable school-level leadership to manage school cultures in which both students and teachers are empowered.

C. District Staff Roles

As the locus of control shifts towards schools, teachers, and students, district staff will find themselves wondering what their new roles should be. In general, the shift will be one that moves from compliance to catalytic service provider. District staff will find that listening to what needs are, identifying common issues, and engaging the appropriate stakeholders to address the issues will be important functions. Facilitating the development of competency frameworks and systems of assessments will be a key role. In addition, district staff play a critical role in providing support and procurement help on information technology, purchasing digital content, and establishing expectations for using data in continuous improvement efforts.

One of the most important—and often challenging—processes for districts is to provide differentiated support. Just as students need support that responds to their strengths, weaknesses, and interests, so too do teachers and schools. One of the mistakes districts often make is failing to understand the context, capacity, and complexity of the change process, as well as where they currently fall along the change process. Districts should consider co-designing support so that it helps schools get to the next step in the change process.

D. Clearly Defining the Bar for Success: Setting Non-Negotiables

The built-in flexibility needed to personalize education can only happen when district leadership creates a set of non-negotiables that guide schools while simultaneously providing as much leeway as possible. By requiring outcomes and quality of education to be tightly prescribed, the teachers themselves can operate within a looser framework. This process will engage stakeholders in the process of role definition and clarity, which identifies the respective autonomies and accountabilities. In most cases, the non-negotiables will be developed through shared decision-making with flexibility already established. For example, in the Chugach School District

WHAT IS STUDENT AGENCY?

Agency is the power to act. Student agency is the power to act regarding one's education—in other words, having ownership over one's education. Student agency is a developmental process that begins in early childhood. It is shaped by the values, culture, and experiences of families and communities.

The school environment and culture can encourage or constrain student agency. The ability to self-direct learning is enabled by transparency about learning goals and driven by the development of mindsets and habits. As students develop skills and habits, they are able to take more responsibility for their education. Techniques for managing personalized classrooms emphasize rituals and routines that help students, whether they are in kindergarten or their senior year, learn the habits and dispositions necessary to take ownership of their education.

In competency education, academic achievement is separated from behaviors so that teachers can provide feedback on each separately, and so that students develop important competencies in both. Rich conversations about the development of habits and their impact on academic success allow students to build intrinsic motivation and self-mastery. Part of growing up is learning how to act in a way that produces a desired change (i.e., having agency). The job of families, schools, and communities is to help students become self-aware of how they learn, how environments impact their learning, and how to navigate new situations so they gather the support they need to be successful.

performance-based system, the district has a set of assessments to be used for determining when a student is ready to be advanced to the next academic level. As students advance within levels, teachers may use a variety of assessments and their own professional judgment to determine student progress.

Similarly, in the Education Achievement Authority's model, the district developed system requirements and the information technology architecture with the goal of providing teacher leaders with ongoing feedback for improvement. The district sought modular digital content with flexibility to add content in response to school-wide needs and built in the capacity for teachers to author and add content for their class or individual students. Other examples of district non-negotiables might include competency frameworks, learning progressions, grading policies, data governance standards and security protocols, performance assessment rubrics, and common metrics. Schools should have the autonomy over budgets, hiring and management of staff, use of time and resources, and curricular themes that are most relevant to their student population and new learning model.

Districts will also need to manage inclusive processes that build knowledge and increase coherence across the district. For example, Sanborn Regional School District organizes opportunities for teachers to calibrate their understanding of proficiency across schools.

The actual process of identifying and developing the non-negotiables should be done through an inclusive process to strengthen the shared purpose, clarify reasoning, and identify implications. Based on the size of the district and the overall transition goals, there may be a roll-out strategy or an innovation strategy that empowers schools to create or co-create their model.

E. Overall Transition Strategy

Regardless of whether the focus is on blended learning or competency education, technical assistance providers suggest that districts think about the transition process as a five-to-ten year implementation and improvement process that requires the commitment upfront. Districts must commit to personalization with the understanding that they will have to refine their operations over time. There may be big bumps along the way—even ones that cause them to step back to make mid-course corrections—but it is all part of the process.

The overall transition strategy for districts must:

- Clearly outline the design and process
- Convey the rationale, theory, and process for change
- Communicate the what/why/how to students, parents, and the community
- Express supports that will be available
- Repeatedly engage stakeholders

Within the transition strategy, districts will also need to clarify accountability for managing change through an executive committee or "leadership hub." Building the capacity of key staff in project management, educational innovation, and distributed leadership strategies should be done early in the process. It will also be helpful to create indicators on a realistic time frame and embed an iterative planning process so that problems can be quickly identified and resolved.

In addition to the above advice, the technical assistance providers also cautioned against pilots without a systemic plan to test ideas, provide support, scale innovation, and remove system barriers. Too often, districts start a pilot with the belief that it will spread organically. However, pilots rarely have the autonomy, time, or resources they need to be successful. For example, when students participating in a pilot have a wide breadth of skills of three academic levels or more, it is very difficult for a single teacher in a classroom to respond to all their instructional needs without accessing a system of supports.[6] Pilots may also create challenges within a school culture, creating an us/them dynamic. If a pilot is the only way to open space for innovating instructional models, then it needs to be done with commitment first so that the pilot's lessons learned are rapidly introduced into the overall transition process, and so barriers can be removed and action taken to support future scaling of what works.

F. Early Investments in Leadership and Professional Development

Although most of the learning will be done through the implementation process, there are several early investments that can make a difference for easing the transition process.

- **New Leadership Styles and Structures:** Given that top-down leadership and management is ineffective in these types of large transitions, district and school leadership will benefit from professional development and coaching in the more adaptive or distributed leadership styles that are valuable for managing innovation. District leadership will want to be skilled at nurturing the growth mindset for adults in the system, as everyone will find that they need to develop new skills as their jobs change. Districts are also exploring new structures such as governance platforms that include students.
- **Project Management:** Districts and schools are used to managing programs, but this doesn't make them project managers. Change management or large-scale project management requires specific skills and techniques, especially when redesigning instructional models and defining technology solutions to support new models. Key staff with the necessary skills can help to streamline inclusive processes, facilitate discussions to address complex issues, organize resources, develop digital strategies to support academic goals, and coach other staff in change management.
- **Managing a Personalized Classroom:** Teachers in classrooms using blended learning and/or a competency-based structure will manage their classrooms very differently than those in the traditional classroom. It is essential to prepare teachers by providing training on managing a personalized classroom so that they can effectively manage the flow as students work on different activities. They will also need access to resources, including modular curriculum units, performance-based assessments, and data on student progress.
- **Professional Development:** Along the way, strong professional learning communities will allow for embedded professional development, especially as teachers learn from each other and identify group needs. This requires the need to create new rubrics for exemplars and observations, as well as the need to train and retrain peer observers and evaluators on what they will see in personalized classrooms as evidence, including how that might look different from teaching in traditional models. Lindsay Unified School District is in the process of developing adult learner competencies to support staff in creating personalized professional development plans.

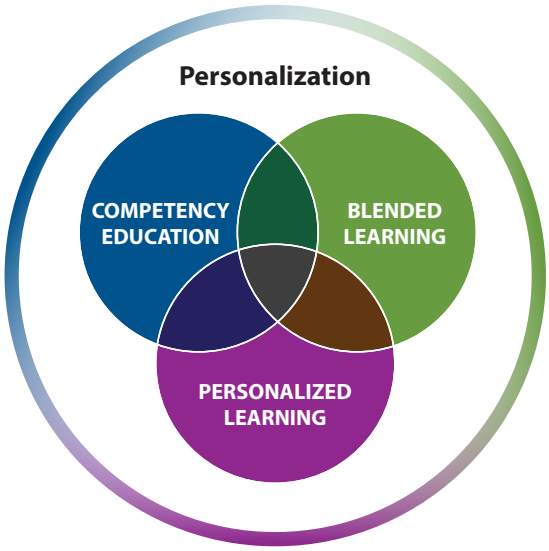
IV. What Are the Differences and Commonalities between Personalized Learning, Competency Education, and Blended Learning?

Whenever we talk about personalization, it's important to note that there are several ways to approach the process of transformation. Most districts adopt either a competency-based structure or a blended learning initiative to start, with varying degrees of overlap between the two. From a technical assistance development standpoint, the difference isn't a marked one. Both approaches share a need to identify goals, understand what the transformation means for students and teachers, decide what steps are necessary to implement it, and determine what success looks like and how it will be measured. However, if people are using different terms for core concepts or the same term but with different meaning, it can create significant confusion later on.

Experts at the convening reinforced the need for clarifying terms upfront with the expectation that the understanding of the implication of the concepts will grow with experience. Experts noted that education leaders and policymakers have a tendency to use words and terms such as personalization, deeper learning, next generation learning, blended learning, and mastery interchangeably, which creates confusion. Furthermore, they may use the terms to describe innovations that look similar to what already exists (with, consequently, very little changing in the end). The public school system will not be improved by making minor adjustments that simply build on what is already being done. Personalized learning, competency-based structures, and blended learning challenge many of the core assumptions upon which the traditional system is built.

Thus, a case is made for understanding the fundamental changes these ideas require and how they relate to the larger goal to personalize education for each student's needs at scale. We make a distinction in this paper between ***personalization*** as the overall design of the education system (as compared to the traditional system) and ***personalized learning***, which is an educational approach.

Building a Personalized System Enabled by Competency Education, Personalized Learning, and Blended Learning



A. What is Personalized Learning?

In general, personalized learning means to tailor learning to students' strengths, needs, interests, and experiences. Personalized learning has become a critical element of most next generation learning models, as we are faced with the challenge of ensuring *all* students get what they need to be successful in their transition to college and careers. We know we can't reach that goal by delivering one-size-fits-all instruction. The only way we can do it is through personalizing education.

There are a multitude of ways schools and teachers can personalize education. Personalized learning starts with teachers building respectful relationships with their students around their learning goals. Personalization requires

EARLY PROGRESS: INTERIM RESEARCH ON PERSONALIZED LEARNING[7]

In reviewing emerging personalized learning models…look for systems and approaches that accelerate and deepen student learning by tailoring instruction to each student's individual needs, skills, and interests. Students have a variety of rich learning experiences that collectively will prepare them for success in the college and career of their choice. Teachers play an integral role by designing and managing the learning environment, leading instruction, and providing students with expert guidance and support to help them take increasing ownership of their learning.

some type of customized learning plan and planning process, which may include data on student skills, interest surveys, career and college exploration options, projected learning trajectories, and reflections to develop meta-cognition so students can understand themselves as learners. Students may have access to varied content, learning environments, or experiences to create personalized pathways for learning based on student interests.

The idea of personalized learning can be traced back to the early 1900s and became rooted in education dialogue by the work of Ted Sizer and the Coalition of Essential Schools in the 1980s. In the 1990s, the concept of personalized learning expanded as new education technologies brought new capacity and functionality beyond what teachers could do with a single textbook. By the early twenty-first century, the growth of online courses enabled greater personalization for students through expanded course access and greater flexibility in pace. As sophistication in digital learning has evolved, some online content, formative assessments, and software began to build in algorithms that could provide instant feedback, practice opportunities, additional resources, hints, and branch pathways for interventions or even pushing students to the next level. The result is that students can now have highly individualized learning experiences with rapid feedback and support based on their own unique point in the learning curve.

Some definitions of personalized learning also emphasize increased student agency or student-directed learning. When students have agency, they have ownership of their own learning thanks to well-developed habits of learning and highly intrinsic motivation. For each learning target, they can make choices about what to learn to achieve a goal, how to reach that goal, and ways to demonstrate their knowledge in meeting that goal—and they can do it all in partnership with their teachers. In this way, students become co-designers of their education, working with their instructors to determine how they will learn and how they will demonstrate their learning.

However, it's important to note that some degree of personalization may be lost if the curriculum and supports are too narrow, with students all marching (albeit at their own pace) through the exact same experience. For example, if there is only one singular pathway through digital content, the digital content might allow for flexible pacing, but this does not mean it is offering a personalized learning experience. Pacing itself is only one component of a personalized learning experience. A software product with a label of "self-paced" or "personalized" may not necessarily provide the degree of different pathways for learning based on student interests and needs that a true "personalized learning" model has. Similarly, just because an educational technology product uses the term "mastery-based progression" on the label to refer to flexible pacing, this does not mean it is actually supporting a competency-based education model. In competency-based pathways, student advancement is based on a student demonstrating mastery of a competency through a performance, usually by producing evidence of work ("show what you know").

In discussions about personalization, we must listen carefully to whether it is being used as the overarching description of the education system, or if it is describing an approach that emphasizes a variation in pace, place,

and/or time of day. Is personalized being used as a noun, verb, or adjective? Some use the term customization instead of personalization, although that suggests designing learning experiences for each individual rather than creating the capacity for the system to respond to students as they progress and mature.

Issues of Equity in Personalized Learning

Students differ in so many ways—personality, life experiences, physical and emotional maturity, learning styles and challenges, opportunities to explore the world, responsibilities, habits for study and work, and academic skills. Thus, the overall concept of personalization and the specific approach of personalized learning is designed to improve educational outcomes of underserved populations by responding directly to individual student needs, strengths, and interests. Instead of moving students through one curriculum and the same instruction in the same set of time, personalized learning seeks to be responsive to students.

Personalized learning raises concerns about equity in two ways. First, there is a worry that personalized pathways could result in different expectations. Second, if educational experiences vary, they may also create or exacerbate/increase patterns of inequity unless careful attention is given to monitoring student progress and outcomes, and providing the necessary supports for all students to achieve mastery. We know that using the same textbook and sitting in class the same amount of time has not resulted in economic or racial equity. With a focus on equity and setting the same high levels of competencies and standards for all students, many innovators see personalization and competency education as approaches to better serve students and provide a more transparent structure around performance to ensure equity while still offering a more student-centered approach to learning.

WHAT ARE THE ELEMENTS OF PERSONALIZED LEARNING?

Although there are a variety of personalized learning models and innovations taking hold, research from the Rand Corporation's Early Progress: Interim Research on Personalized Learning report identified four essential characteristics for a personalized learning model, which include competency-based progressions as noted below:[6]

Learner Profiles: Teachers have an up-to-date record that provides a deep understanding of each student's individual strengths, needs, motivations, progress, and goals to help inform his or her learning.

Personal Learning Paths: All students are held to high expectations, but each student follows a customized path that responds and adapts based on his or her learning progress, motivations, and goals. For instance, a school might use weekly updates about a student's academic progress and interests to assign her a unique schedule that includes multiple learning experiences (or "modalities") such as project-based learning with a small group of peers, independent work on discrete skills and complex tasks, and/or one-on-one tutoring with a teacher.

Competency-Based Progression: Each student's progress toward clearly-defined goals is continually assessed. A student advances and earns course credit (if applicable) as soon as he or she demonstrates an adequate level of mastery.

Flexible Learning Environments: Student needs drive the design of the learning environment. All operational elements—staffing plans, space utilization, and time allocation—respond and adapt to support students in achieving their goals. For instance, schools might give teachers more time to deliver small-group instruction by taking away other responsibilities, or they might recruit parents and community volunteers to provide daily after-school tutoring to every struggling reader.

B. What is Competency Education?

Imagine that you are the Driver's Ed teacher, and your big benchmark is having students earn a driver's license. You would probably set smaller benchmarks for students to reach along the way, including things like successfully turning in traffic, maintaining a safe distance between cars, and parallel parking. Students learn to read and understand traffic signs and demonstrate their ability to signal, check for open lanes, and make turns. The instructor may use varying teaching techniques to build skills depending on the level of mastery a student has. Students would take the final driving test only when they have achieved all of the benchmarks, including a written test, and are ready for the driving test. If they don't pass the first time, they continue practicing until they have mastered the skills. Mastery is certified through both a written test and a performance-based assessment (the driving test). Apply this approach to an entire school, and you have the basic idea for competency education. You can learn in different ways, but the expectations are the same for all learners, and you must be able to demonstrate mastery through a performance task to earn a license.

Competency education (also referred to as *proficiency-based, mastery-based,* or *performance-based*) is a structural reform that helps schools move from the traditional time-based system. In traditional time-based systems, huge gaps are created along students' learning trajectories because students are generally passed on to the next grade even if they aren't proficient. A shift to competency means the system is designed to ensure students are learning, and they must demonstrate that learning before advancing to the next level. Marzano Research Laboratories refers to these institutions as "highly reliable schools" that are able to consistently produce student achievement. They are reliable because students earn credits by demonstrating mastery, not by an A–F scale that allows students to advance with variable amounts of skills and leaves many students with large gaps in their proficiency of core subjects and knowledge.

Competency education builds upon standards to set a bar for what every student should know and be able to do. It is important to have clear targets for learning based on standards, and to use time more flexibly, as needed, to achieve mastery of high standards. This is different from traditional schooling because rather than the amount of time per day, per subject, being fixed and the amount of learning being variable, competency education requires that learning at a high level and consistent expectation is the new bar. By making time more flexible to meet student needs, we can offer a new value proposition for our education system, and the amount of learning that is possible within time-bound targets becomes the new metric.

Frequently, competency education is described as simply flexibility in pacing or awarding credit, but this does not capture the depth of the transformation of our education system from a time-based system to a learning-based system. Competency education holds promise as districts explore new ways to expand and enrich support to students, challenging the assumption that learning only takes place within the classroom.

In 2011, one hundred innovators in competency education came together for the first time. At that meeting, participants fine-tuned a working definition of high quality competency education. The five-part working definition of competency-based education is:

- Students advance upon demonstrated mastery.
- Competencies include explicit, measurable, transferable learning objectives that empower students.
- Assessment is meaningful and a positive learning experience for students.
- Students receive timely, differentiated support based on their individual learning needs.
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.[8]

The term competency education is being used freely across K–12 and higher education to refer to the concept that students move on when they have mastered the skills in a unit or course. At CompetencyWorks, we believe that it is also a structural reform to design learning environments around students demonstrating mastery. With this structural shift, competency education is ideally implemented as a school-wide reform (or, better yet, a system-wide reform if we are to see the value proposition more fully realized). Schools can roll-out competency education in one grade or one department, but school-wide policies and practices must eventually be put into place to ensure there is transparency of learning progressions, adequate support, the ability to advance upon mastery, and additional time and instruction for students who are not yet proficient at the end of a semester. If we want to build a system where failure and huge achievement gaps are not an option, we must focus on student mastery every day for each and every student.

Issues of Equity in Competency Education

Equity is at the heart of competency education. It developed in response to the time-based A–F graded system, which allows students to advance without prerequisite skills and results in harmful variation of proficiency across districts, schools, and teachers. When fully implemented, competency education provides a structure in which proficiency is calibrated to maintain consistency in expectations and students receive adequate instructional supports to progress. Competency education strengthens personalized learning with a transparent structure that enables greater systemic and personal accountability, as well as continuous improvement.

The primary equity concern related to competency education is that some believe variation in pacing will mean a percentage of students get left behind. However, the reality is that in traditional environments, gaps for students who lack core knowledge and skills already exist, and the time-based structure means these gaps only grow over time. What competency education requires is that we focus on students every day, giving them supports to stay on pace and acting to ensure they demonstrate mastery. Students can't fail an entire course when the unit of correction is each learning target.

In order to ensure that inequitable patterns are not re-created in competency-based schools, leaders will need to attend to several issues. First, they will need to monitor progress to keep students on pace. They need to hold all students to high levels of rigor. There needs to be a vigilant focus on fighting inequity through a culture of moral imperative. In parallel, schools need to be structured so that struggling students receive rapid, high quality instructional support using the standards to target support. Schools must know where

10 PRINCIPLES OF PROFICIENCY-BASED LEARNING

1. All learning expectations are clearly and consistently communicated to students and families.
2. Student achievement is evaluated against common learning standards regardless of where it was learned.
3. All forms of assessment are standards-based and criterion-referenced.
4. Formative assessments measure learning progress during the instructional process and are used to inform instructional adjustments, teaching practices, and academic support.
5. Summative assessments evaluate learning achievement and record a student's level of proficiency at a specific point in time.
6. Academic progress and achievement are monitored and reported separately from work habits, character traits, and behaviors.
7. Academic grades communicate learning progress and achievement and are used to facilitate and improve the learning process.
8. Students are given multiple opportunities to improve their work when they fail to meet expected standards.
9. Students can demonstrate learning progress and achievement in multiple ways.
10. Students are given opportunities to make important decisions about their learning.

–Adapted from Great School Partnership (and abbreviated for format)

every student is upon entry and also develop meaningful approaches for students who start off significantly behind grade level. These approaches will recognize that students may have to address social-emotional issues, fill gaps, and, when appropriate, plan for an accelerated trajectory of learning. An additional concern is that students who require more time to learn or are on an accelerated path (i.e., covering a longer segment of the learning progression in the same amount of time) still have the opportunity to develop higher-level skills through deeper learning.

EXCHANGING KNOWLEDGE

Although the fields of competency education and blended learning both fall under the category of personalized learning, they are two approaches that have developed relatively independent of each other. Both require substantial knowledge and large-scale change processes, but what, exactly, is required to build blended learning into the conversion to competency education, and vice versa? How can we ease the process of transition so they can be implemented simultaneously or complementarily to one another?

Based on the conversations with technical assistance providers, the following suggestions are a few ways we can help to expedite the process.

- **Joint Site Visits:** When experts visit schools together, they are able to share their different perspectives, point out examples of good and not-so-good practices, and engage in deeper conversations that help fill their individual gaps in knowledge. Although experts can make joint site visits happen on their own initiative, organizations can be catalytic by creating them as intentional knowledge exchanges and providing facilitation.
- **Fellowships and Exchanges:** Organizations can create fellowships in which they bring in additional expertise for a period of time with the goal of building the capacity of their team. In addition, organizations can create exchanges with others in their fields, wherein staff take on roles that will both infuse the other organization with their expertise and also build a base of knowledge that can be brought back home.
- **Joint Network Meetings:** Networks are an important part of any field and can be catalytic in building knowledge and consensus. When networks of people involved in blended learning come together with networks involved in competency education, new partnerships and opportunities for collaboration develop. Currently, the iNACOL Symposium provides this opportunity for individuals. More network-to-network exchanges can help build richer relationships more rapidly.
- **Learn from Others Online:** Video, open content, webinars, and live teleconferencing can be tools to bring knowledge to a larger number of people. By using video to showcase models and proof points, conduct interviews, highlight perspectives of different stakeholders, and offer knowledge about implementation, lessons learned, and effective practices, the field can share information more widely.
- **Level Setting Terminology:** Using the terms personalized learning, competency-based education, and blended learning interchangeably when these terms mean different things has unintended consequences related to the quality of implementation of new learning models for students. It is important to understand the variations in the meaning of the terms and the implications for designing and implementing new models. The terms are related—more in a "Venn diagram" sense where there can be some functional overlap in the design elements—but the nuances of what these words mean in implementing a restructured instructional environment are important.

C. What is Blended Learning?

According to the Keeping Pace report, more than three-fourths of school districts in the United States are interested in planning or starting new blended learning programs in their schools for the benefits to teachers and students alike.[9] With blended learning, teachers can have powerful tools at their fingertips for personalizing instruction. At the same time, students express that they prefer blended learning when they have increased flexibility in learning space, place, and pacing; more opportunities for one-on-one and small group interactions with peers and instructors; expanded access to resources online; the ability to identify areas where they need help and ways to get help; and opportunities to more rapidly close gaps using digital content and assessment tools. There are also a la carte models of online and blended learning, which allow students to take online classes to have access to a broader range of courses.

Blended learning delivery models are catalysts and enablers for personalized learning, regardless of whether a school is operating in traditional time-based structures or a competency-based system. Blended learning can provide a modality for improving personalized learning experiences by increasing access to content and courses that students need, and helping to optimize learning for each student by letting students move at their own pace. As such, blended learning is a powerful engine in driving the transformation from a one-size-fits-all factory model to a student-centered system.

High quality blended learning combines the best of face-to-face instruction with the best of what we know about how to provide learning online. Technology is expanding rapidly, and schools are able to select among a number of emerging technologies, applications, tools, software, and devices that can be applied to a number of defined problems across a learner's experience.

Horn and Staker outline blended learning with a three-part definition:[10]

- Blended learning is any formal education program in which a student learns at least in part through online learning, with some element of student control over time, place, path, and/or pace.
- Students learn at least in part in a supervised brick-and-mortar location away from home.
- The modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.

Blended learning is not just getting every student a laptop or device. It is not just using a Google document for a class assignment. It is not just having access to some digital content for a special assignment. To paraphrase Michael Horn and Heather Staker's definition, blended learning integrates the learning experiences both online and face-to-face to provide a seamless shift in the instructional model that increases student control of time, place, path, and/or pace.

With blended learning, teachers are empowered by technology to do what they do best—provide differentiated small group or one-on-one instruction, have caring and meaningful interactions with students, assess student learning each step of the way, and intervene to problem-solve and coach students to success. Software can provide data and resources to keep students on their "learning edge" and "moving forward" in ways never before possible.

Blended learning offers a vehicle for optimizing the instructional design toward personalization through transparent data dashboards and enhancing a student's choice of path. This flexibility allows students to access multiple resources and a variety of content to provide a clear profile of how far they have traveled along their pathway and the work still needed to continue along the pathway if they are to achieve success.

Educators have been trying to personalize learning and focus on student competency for decades. Only now that there are new technology tools that can empower personalization and provide rich data on student competency in ways never before possible can we save time and effort and empower feedback in real-time. For example, the emergence of improved adaptive technology systems to support personalized learning is a game-changer, expanding the degree to which instruction can be personalized. Blended learning leaders have identified five ways that adaptive technologies may be able to support competency education, including:[11]

- Honing the Progression: Focusing on the areas of need that will keep students on their own "zone of proximal development," resulting in efficiency of time and effort
- Real-Time Scaffolding and In-Course Correction: Identifying weaknesses in how students are progressing with real-time corrections, scaffolds, and supports
- Limitless Pathways: Offering students options for continued learning
- Leveling: Identifying precise academic levels for students and where there are gaps in skills
- Recommendation Engines: Recommending content based on student performance

Teachers using some adaptive software describe the technology as giving them levers they have never had before—once a student enters their classroom, they can identify on which level each student is, pinpoint each student's needs, and catalyze their learning experiences to accelerate them to move ahead. These adaptive technologies provide powerful tools for helping students and teachers monitor where students are in their varied learning experiences. If there are gaps, they must be addressed with increased supports.

The question of why and how to approach the use of technology—and to what end—is key in implementation and in monitoring quality and equity. By selecting technology and content based on addressing issues within the context of the student population, patterns of academic achievement, and its instructional capabilities, schools and districts can be sure they are not going blended for the sake of the technology, but driving toward dramatically improving student learning.

Issues of Equity in Blended Learning

Blended learning has the potential for improving instructional delivery to underserved students in several ways. It allows flexibility in pace and place so that students can access instruction beyond the classroom, and, when efficiently deployed, allows teachers to direct their time toward helping students who are struggling or need more guidance. Adaptive systems can also provide more intensive learning experiences by helping students build skills, especially at the lower knowledge levels of recall and comprehension.

There are four specific concerns that arise about equity in blended learning. First, students may have lack of access to technology at home and in the school, which immediately impacts their ability to benefit. The digital divide among families of disparate income levels is very real. Second, if equity is not constantly monitored, there are fears that historically underserved students will be directed to lower-skill level content without enriching deeper learning opportunities. Third, schools that are purchasing software need to make sure it takes into consideration students with special education needs and English language learners, and is also culturally relevant to the student population. Fourth, personalization may suffer if students are required to learn online with insufficient social learning or if the curriculum is narrowly developed without opportunity for choice.[12]

There is also a substantial concern that schools developing blended learning only focus on the technology-enabled instruction rather than ensuring that both the face-to-face and online learning is of the highest quality. It is critical in designing blended learning models to clarify the overall pedagogical approach, including how it is personalizing learning. Blended learning in and of itself doesn't guarantee personalization for each student's need, but it can be used to further that goal.

COMPETENCY EDUCATION: MISCONCEPTIONS AND MISUNDERSTANDINGS

One of the major stumbling blocks in education reform is that there is no universal lexicon in place to make discussions about blended learning and competency-based education easy. Blended schools offering online curriculum may mistakenly refer to themselves as competency-based, while competency-based schools may use the term blended when they refer to education technology.

Miscommunications such as the ones described below can derail important conversations and add to the complexity of where blended learning and competency education overlap.

1. **Self-Paced Versus Flexible Pacing and Variable Supports:** Probably the biggest area where there is a challenge in terminology is how the idea of flexible pacing is misused to be synonymous with competency education. Blended learning that employs digital content to allow self-pacing may help with flexibility and provide improved data feedback loops, but this alone does not create a personalized learning environment or competency-based progression.

   Implementing "self-paced" software in a time-based system is a limited notion, failing to emphasize the transparency, higher order skills, and commitment to helping students reach proficiency that is found in competency-based systems. Self-paced digital learning can be a powerful tool within a competency-based school, helping to provide flexible pacing, rapid feedback, and the ability to advance to higher level content and skills. However, online and blended learning alone without the structural changes of true competency education do not ensure that students will reach high levels of proficiency.

   Time and pacing matter in competency education systems. Teachers work with students to ensure they are progressing towards the ultimate goal of college and career readiness. Schools create the capacity to provide additional instructional supports and resources to students to ensure they continue to progress.

2. **Standards Versus Competency:** In order to provide a learning environment that requires students to think critically and to cultivate the higher-level skills needed for addressing complex problems, schools must develop competencies from the state standards. Competency education assumes that students will have the opportunity to apply their skills to challenging problems in new contexts through performance tasks, project-based learning, and/or real-world application. Districts and schools that have not taken the time to create rich performance-based assessments or to restructure schedules and calendars so students have the opportunity for deeper learning will be limited in fully implementing competency education. It is important to pay attention to the performance levels of digital learning, as they are often calibrated to the lower levels of recall and comprehension.

3. **Standards-Referenced Grading Versus Standards-Based (or Competency-Based) Grading:** The phrase competency education is also being increasingly referred to as a description for classrooms and schools that are using standards-referenced grading. Using standards rather than assignments to structure the learning provides the transparency needed for students to begin to own their learning. However, in standards-referenced grading, students are still passed on and advanced to the next lesson or subject even if they did not demonstrate mastery of the core standards in the course or grade.[13] In standards-based grading (or competency-based grading) there is an intentional effort to build the capacity to respond to students who are "not yet proficient," including careful consideration of additional time to learn, promotion, and retention.

Listen for breadth and scope when colleagues use the phrase competency-based learning. Competency education may be referring to a comprehensive restructuring of schools to ensure a consistent and coherent approach to support students reaching proficiency, or a more narrow definition emphasizing self-paced (or something in between).

WHAT IS YOUR SCHOOL'S THEORY OF LEARNING AND TEACHING?

In what ways is your district or school:

- Tailoring learning for students' strengths, needs, interests, and experiences
- Motivating students extrinsically versus developing intrinsic motivation
- Offering adaptive software to build foundational skills
- Engaging students
- Building habits
- Participating in project-based learning and deeper learning
- Demonstrating learning through performance tasks and performance assessments
- Creating opportunities for students to develop agency, voice, and choice
- Giving students flexibility in where, what, how, and at what pace they learn
- Making curriculum available online
- Advancing students based on demonstration of mastery
- Making learning goals and assessment tools transparent
- Assessing students' work when they are ready for feedback
- Offering just-in-time support
- Providing opportunities to apply skills

v. How Do Districts Integrate Competency-Based Structures, Personalized Learning, and Blended Learning?

Although they can fit together in a new school design, the concepts of personalized learning, competency education, and blended learning are not synonymous. A school can personalize through high-interest internships but not use technology to provide instruction. A school can be implementing a station rotation blended model in a time-based system with no student choice in what they learn or how they demonstrate competency. A competency-based school might not use blended learning and have a minimal emphasis on personalization beyond providing additional supports and time necessary to have students succeed.

Personalized learning and competency education are highly intertwined, with each serving to enhance and strengthen the other. Competency education essentially offers an infrastructure that enables personalization without losing the commitment to equity. Some innovators consider that competency education is foundational to personalized learning, in that competency-based learning progressions enable high degrees of personalization and deeper learning for each student. Furthermore, personalized learning benefits from transparent competency-based progressions to engage and motivate students. When these ideas are integrated, we have clear and constant benchmarks of success for all students based on the Common Core and other state standards. We also have the opportunity to offer different ways each student can become competent on these benchmarks. The latter requires creativity and flexibility on the part of educators, with management teams at the district and school level keeping an eye on changing needs.

This integration process can be described as a tight/loose model in which two elements are held tightly. First, school systems need to build and maintain a shared understanding of standards and competencies. Second, a system of assessments (including common performance assessments and/or common scoring guides) will need to be held tightly as a core part of the infrastructure.

At the same time, schools and educators should have autonomy to design the approaches, including the type of instruction (direct

instruction, inquiry-based, project-based learning), the delivery of instruction (face-to-face, online), where students are learning (in classroom, at home, library, youth center, workplace), and when they are learning (24/7). This is not to say that any type of instruction is acceptable. We need to be mindful that choices among instructional approaches are based on the research that has been done at the intersection of pedagogy, content knowledge, and technology-enabled delivery.

We have only begun the journey of personalizing education within a competency-based structure using blended learning to expand learning beyond the traditional structures of time, classroom, and grade-level. By establishing a commitment that all students will reach college and career readiness, and by creating a transparent and explicit infrastructure of competencies based on standards, competency education enables students and teachers to take advantage of multiple ways of learning and demonstrating that learning. Personalized learning can flourish when there is a strong infrastructure in place to ensure equity and excellence. Blended learning can be designed to take advantage of the best of what we know about face-to-face and online instruction.

With so many different approaches and ideas emerging in the field, it is of huge importance to look to schools and districts that have already begun to put the pieces together for advice. Below are three short profiles on Pittsfield School District in New Hampshire, Chugach School District in Alaska, and the Education Achievement Authority in Michigan.

A. Putting It All Together: Pittsfield School District

Personalization is the core of education at Pittsfield Middle High School in New Hampshire (PMHS). PMHS started the transition to personalization with their community as partners. According to Pittsfield School District (PSD) Superintendent John Freeman, the district took direction from the community at the earliest stages of development about the kind of graduates they wanted and the type of school they wanted. That engagement continues today in the Good to Great team, which guides the district when they encounter implementation issues and require problem solving around mid-course corrections.

Student Agency

The vision for the district was to create a student-centered approach that provided the necessary skills for twenty-first century success. They started by taking student voice seriously, based on a belief that engagement is at the core of academic success and sustainability. Much of the effort to engage students is directed at including their voice in decision-making and developing them as leaders. The district has created formal avenues for student participation with the help of consultants to build collaborative working relationships between youth and adults. At Pittsfield Middle High School, the majority of members on the school council, school advisory council, Impact Team, and Justice Committee are students.

The Competency-Based Infrastructure

When PMHS talks about their transformation, they don't lead with competency education, but it acts as the structural foundation of their approach. As PMHS converted to a competency-based infrastructure, they realized that the competency infrastructure provided a backbone to their efforts to personalize education. It also served to help tie together the efforts to expand the pathways available to students in building and demonstrating their skills. The competency-based curriculum serves as a roadmap for teachers and students, as well as a mechanism by which professional development can be embedded into the daily lives of teachers.

Structuring Personalization through Advisories, Personalized Learning Plans, and Student-Led Conferences

PMHS thinks deeply about how to structure the school and operations around students. They start with daily advisories, each with its own set of competencies. Advisories are organized around two-year bands: grades 7–8, 9–10, and 11–12, allowing relationships to grow. Within the advisories, students develop their personalized learning plan and participate in student-led conferences, in which students reflect on their academic, personal, and social growth by creating a portfolio of their work, with reflections and evidence of their growth. Once PMHS implemented student-led conferences, with students owning the process and describing their growth, hopes, and dreams, parent participation jumped from 10 percent to 90 percent.

Expanding Multiple Pathways of Learning

PSD is expanding their range of learning experiences and offering more ways for students to connect academic learning with real-world experiences and challenges.

Blended Learning: PMHS considers themselves to be at an early stage of learning how to take advantage of education technology. Teachers are exploring ways to integrate technology and create blended classrooms with the help of a technology specialist. PMHS is using the a la carte blended learning model through online courses. Due to the size of the school, students are encouraged to take classes online that are not offered or aren't accessible because of schedule constraints.

Learning Studios: PMHS has created 20-week long Learning Studios, a once-a-week opportunity for students to pursue interdisciplinary investigations. The studios are designed as project-based learning, assuring that students have the opportunity to develop higher order skills.

Extended Learning Opportunities (ELO): PMHS takes advantage of the New Hampshire policy that enables students to build skills, demonstrate competencies, and earn credit from experiences outside of the school. In some cases, higher education partners have enabled students to earn college credit, as well. With the help of the ELO coordinator, students design ELOs that offer credit in an area of interest or for credit recovery by providing students with an alternative to repeating a course.

Structuring Systemic Interventions for Struggling Students

PSD has been testing ways to respond to the needs of students who are struggling or who enter school more than one year behind grade level. They've developed a strong intervention system, with an emphasis on reaching students in middle school. Reading and math specialists provide double doses of reading and math. The district is also reaching into elementary school, with a special education teacher at every grade level working to help students learn foundational skills.

High school is harder, as many of the students who are struggling are discouraged. PMHS is partnering with the Virtual Learning Academy Charter School to provide competency recovery for students at the unit level by completing online units and demonstrating competency. They began to build the capacity for competency recovery into PMHS, with resources set aside to support students during the summer. They also are exploring ways to use personalized learning to respond to the need of struggling students, creating opportunities to build their skills through areas of interest. As with many competency-based districts, Pittsfield is still working through the details of creating flexible pacing for high school students given that the desire to graduate within four years is a major adolescent benchmark.

B. Putting It All Together: Chugach School District[14]

Chugach School District (CSD) in Alaska is the first district to transform itself into a competency-based model (they use the term performance-based), a process it has been using for twenty years. Designed to serve a rural population that is spread out over hundreds of miles of Alaskan wilderness, the CSD approach is one that puts students at the core of the district operations.

Shared Vision

Chugach School District invests in ongoing community engagement. Its mission, developed through community-school conversations, emphasizes student agency.

> *The Chugach School District is committed to developing and supporting a partnership with students, parents, community and business which equally shares the responsibility of empowering students to meet the needs of the ever changing world in which they live. Students shall possess the academic and personal characteristics necessary to reach their full potential. Students will contribute to their community in a manner that displays respect for human dignity and validates the history and culture of all ethnic groups.*

That shared purpose of "empowering student ownership of learning and success" is supported by eight values (or elements):

- Performance-based learning
- Valuing stakeholders
- Resiliency
- Agility
- Shared leadership and responsibility
- Open and honest communication
- Continuous improvement and innovation
- Trust and teamwork

Comprehensive Domains of Learning

The competencies students are expected to master by the time they graduate are structured within ten levels and ten content domains: mathematics, technology, social sciences, reading, writing, culture and communication (student will understand and appreciate the unique aspects of their own culture, as well as Alaska Native or world cultures), personal/social/service (the values and skills necessary to reach one's full potential and foster the development of those around them), career development, PE/health (healthy interpersonal strategies that apply in both rural and urban environments), and science. These domains have replaced traditional grade levels and courses so that students are meeting the expectations of state education standards as well as what parents hope to see for their children's futures.

Within this structure, teachers have the flexibility to use the curriculum and learning experiences they think will be most effective with their students, and to use their professional judgment (supported by strong professional learning communities) in assessing students' progress. The district has developed systems of assessments, including performance assessments, which are used to determine if students are ready to advance to the next level. The scoring (grading) system indicates which level of knowledge (based on Webb's taxonomy) students have reached on the path toward higher-level applications of skills.

Personalization and Student Ownership

Because students and the community are at the center of CSD, personalization is infused throughout the district operations. Educators foster strong, respectful relationships with students and offer opportunities for student choice in how they learn and demonstrate their learning. Additional opportunities for career exploration, job-related activities, independent living skills, and the integration of culturally relevant experiences are also available, some of which are offered in a special residential program known as Voyage to Excellence

Student ownership of learning is developed throughout the district, with students encouraged to take even more ownership by co-designing high-interest Independent Learning Projects that will allow them to demonstrate their learning on several standards.

Technology Enhances Core Values of Student Agency, Transparency, and Continuous Improvement

When students move to Level 4 in the CSD progression, they receive laptops with which they can access a number of adaptive software programs and online curriculum so they can advance at their own pace. Students have choice about how they access instruction and how they demonstrate learning. CSD is also seeking to expand access to online courses to expand options for students.

The management information systems, AIMS, is accessible to students, teachers, and parents so there is absolute transparency on how students are progressing. CSD has designed AIMS to ensure students are receiving balanced instruction through a combination of direct instruction, performance tasks, thematic units, and individual learning projects. The district team works with teachers to review data to ensure individual students are progressing, and also seeks ways to improve the overall capacity of the district to meet the needs of the students and communities.

C. Putting It All Together: Educational Achievement Authority[15]

The Educational Achievement Authority (EAA) is a local education agency established to turn around Michigan's Priority Schools by providing increased flexibility and autonomy at the local school level and eliminating the barriers that impede student performance. The EAA describes their approach as student-centered in which "pedagogy, assessments, support systems and culture are refocused to facilitate student progress organized around mastery instead of age and seat time." Student learning experiences are personalized through the use of blended learning and a powerful teaching and learning platform called Buzz.

Competencies Drive Learning

EAA has transformed standards into "I can" statements to empower students and reinforce that their education is for themselves. Buzz provides transparency to students, families, and teachers about how students are progressing. It also enables a high degree of independence as students move through the cycle of learn, practice, apply, and assess.

However, it is the twelve overall competencies[16] (including resilient and flexible; creative, critical, and analytical thinker; mindful of healthy living; and college ready without need for remediation) that the EAA expects students to be able to do by the time they graduate that is driving schools to ask, "Are we doing all we can to help develop students into young adults?"

The EAA Model

The EAA's initial model is built upon five pillars:

1. Students are grouped by readiness, not by grade. Teachers and students refer to levels to indicate where they are in their learning. There are about two levels for each age-grade. Students are assessed using the Scantron Performance Series when they enter school to assign them their level in each subject area.

2. Students create and assume ownership for their respective personalized learning and success paths, and are able to communicate their progress relative to their individualized learning goals. Students are provided options for how they learn, practice, and demonstrate their learning. In addition to Buzz, which tracks their progress, teachers employ rituals and routines in the classrooms in which students mark their progress and let teachers know how they are doing.

3. Students are allowed to work at their own pace, using a blended delivery system, to master rigorous standards to ensure they graduate college, career, and next generation ready. Buzz is designed for students to manage their learning through four phases for each unit: Learn, Practice, Apply, and Assess. There are options for online content, but teachers may also direct students to do projects or use other materials. With Buzz, teachers can individualize options for students instantly based on their progress and needs.

4. Students provide evidence of mastery through relevant performance tasks and common assessments. Assessment is taken seriously, with plenty of room for professional development so that teachers have a shared vision of what proficiency looks like for each level. EAA considers three levels of assessment: performance tasks, common assessments and state-level assessments. Students ask for a conference to meet with teachers when they think they are ready for assessment.

5. Continuous feedback is provided to students, teachers, administrators, and parents through the teaching and learning and the data warehouse. At the student and teacher level, there are already many ways to monitor progress and pace, including horizontally (within a level) and vertically via a learning map of the PK–14 Common Core progression. The district is developing its capacity to use data to manage continuous improvement. There are frustrations due to interoperability of the adaptive software programs, which prevents teachers from accessing data on student learning through Buzz.

Flexibility and Autonomy

As a new district, EAA had the opportunity to distribute responsibilities and necessary autonomy across the district-school-teacher roles. The district took responsibility for developing the system-wide learning platform to be used by all schools. The system is designed to support students in their learning, teachers as they monitor individual student progress, and the school to engage in continuous improvement. Furthermore, the district can monitor student progress and identify problems early on.

EAA supplies the content for Buzz, yet schools can add content so it is available to teachers to use with their students. Teachers can modify the content themselves for their classes or to direct highly personalized content to students. Students have choices about how they want to learn new skills and content. EAA is always on the lookout for new content developed by teachers that can be shared across the district to strengthen the overall content options.

EAA takes a very strong role in professional development by providing online content, videos of teachers in the classroom, and support from trainers and coaches as teachers build their own skills. Teachers participate in online professional learning communities and develop personalized professional development plans. Teachers also make their own videos to demonstrate their skills, thus adding to the pool of resources to draw from.

VI. How Can Competency-Based Districts Maximize Learning through Blended Approaches?

At the convening, experts in blended learning and competency education shared their insight about how districts and schools are integrating blended learning within competency-based structures. The findings are outlined in a series of questions and answers below.

A. Why Should a Competency-Based School Blend its Learning?

Competency-based schools will benefit by intentionally identifying the challenges they encounter as they shift from a time-based system. Below is a discussion on five common issues that competency-based schools face—and how blended learning is helping to resolve them.

1. **Boosting Skills:** One of the greatest challenges for any school is addressing the needs of students who enter with significant gaps in their skills or are significantly behind grade level. When coupled with intensive supports from teachers, online learning tools—especially with the emergence of adaptive skill-based software and technology platforms—can add capacity to respond to students who have gaps in knowledge or need more intensive practice to build skills at the levels of recall and comprehension. Students can target specific gaps rather than sitting through an entire course. Teachers can assign digital content that meets students at their level and provides intensive learning experiences with rapid feedback.

2. **On-Demand Learning and Assessments:** As schools begin to implement competency education, they invest in teachers developing the skills to manage personalized classrooms and to build capacity to group and re-group to better meet students' needs. Blended learning can be invaluable in organizing instruction so that students can continue learning even when the teacher is working with other students. When teachers have multiple curriculum options online, students can access it to find out what they need to do, what proficiency looks like, and how they can demonstrate their learning. Furthermore, if digital content has embedded formative assessments and can create real-time data, multiple forms of assessments can be on-demand, as well. (Teachers are always going to look for other evidence as they assess student learning beyond that which is embedded in the product, but this is a great reference point.)

   One place we see on-demand learning in action already is in New Hampshire, where schools are taking advantage of online competency recovery units offered by Virtual Learning Academy Charter School (VLACS). When students are not successful in reaching proficiency on a single unit in their schools, they can access on-demand learning for a single online unit from VLACS and demonstrate competencies, then return to the next unit in their schools.[17]

3. **Advanced Students:** Some students can and want to advance to higher levels beyond their grade level; however, they may want to stay in the same classroom with their peers or they may already be at the highest possible academic level in their school. Giving students online learning opportunities and on-demand access to learning activities and resources that meet their needs (e.g., help them master their next step in the curriculum) is a potential game changer, allowing teachers to support the learning of a classroom of students who are at different places in the curricular sequence.

   Whether it is a sixth grader accessing seventh-grade math, an eighth grader accessing ninth-grade English Language Arts, or an eleventh grader accessing college courses, online learning has the potential to rip the ceiling off our education system. With blended learning, there should be no limit to how fast and how far students can go. Students who complete all of the courses or units available at their own high schools can continue to participate in online courses offered in advanced coursework, take advantage of dual enrollment, and/or access courses in areas of specific interest such as biotechnology, coding, or learning to speak Chinese. These students are with their peers and continue in their local schools, and also have expanded access to educational opportunities through approved online courses taught by excellent teachers over the Internet.

4. **Managed Choice:** Schools can often increase engagement by providing choice to students. Although student agency has many other dimensions, choice over how one learns and how one demonstrates learning can be very powerful. When offering online curriculum in competency-based schools, teachers often structure choice within the units so that students have an option of: 1) instructional delivery system, such as software programs or textbooks, 2) context, such as learning about the forces that cause civil wars with choice among a range of different countries, and 3) evidence of learning, such as by essay, presentation, or a model.

5. **Teacher Time:** When students are learning online, teachers are then able to spend more of their time working in small groups, providing differentiated instruction to students who are struggling, or engaging with students around performance-based assessments. Given that much of the adaptive digital content focuses primarily on the lower levels of Bloom's taxonomy—'remember' and 'understanding'—online platforms with strong skill-building features often free teachers' time to focus on working directly with students, facilitating more rigorous performance tasks and on helping students achieve the deepest levels of learning.[18]

B. What Blended Models Work Best in Competency Education?

As competency-based districts and schools begin to consider blending the delivery of instruction, they will have to make decisions about the model(s) they want to use. To get started making these decisions, districts and schools should think about their overall approach and the specific challenges confronting them. In this way, blended learning will both add value and be aligned with the overall approach of the school.

1. What is your overall approach to learning, and what elements can be offered through online learning? As you consider your overall pedagogical approach, include student agency, motivation theories, social-emotional learning, and a pedagogical approach to learning.

2. Who are your most underserved students and how might online learning be used to better serve them?

3. Is there a specific problem or challenge that a technology-enabled instructional approach can help solve?

Given the early development of competency education (with only a few districts having more than three years of experience), research isn't available to guide decisions about how blended learning might be best implemented in competency-based schools. However, the recent report by Julia Freeland of the Christensen Institute, Blending toward competency: Early patterns of blended learning and competency-based education in New Hampshire, provides insights into how early innovators are using blended learning.

According to the report, many competency-based schools still operate within traditional time-based school calendars, daily course schedules, and periodic class-wide assessments, while others are beginning to personalize by creating more flexibility in the use of time. "Schools that were still tethered to time-based practices … used sustaining blended-learning models such as the Flipped Classroom and Station Rotation. Smaller schools and those farther along in their implementation were turning to more disruptive blended models like Individual Rotation, Flex, and A La Carte." The paper goes on to explain how disruptive blended learning models, like the Flex model, excel at allowing students to move through content at a flexible pace, making seat-time variable. "It follows then that disruptive blended-learning models—by design—mark a departure from time-based traditional school structures and may fit better within the goals and structures of competency-based education."[19]

BLENDED LEARNING MODEL DEFINITIONS

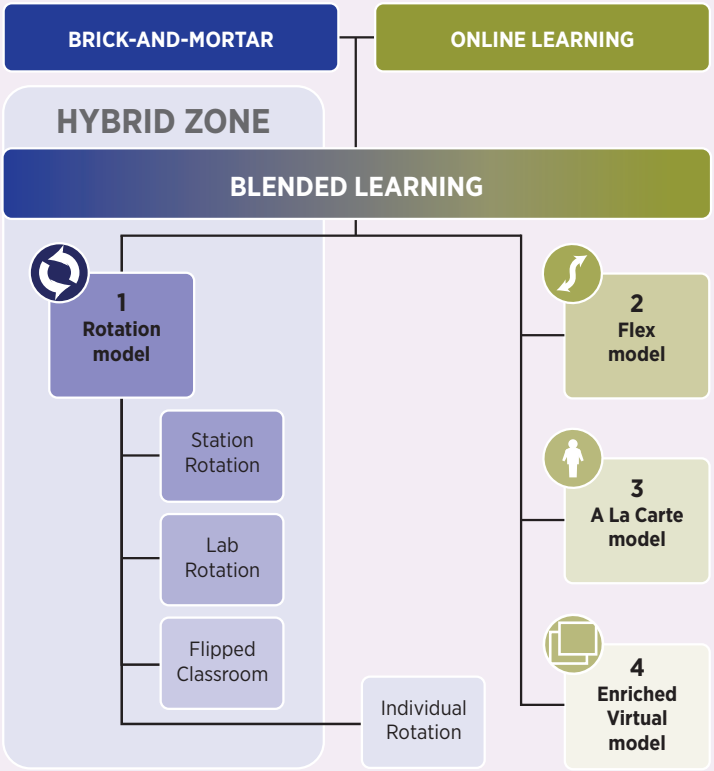
The definition of blended learning is a formal education program in which a student learns:

(1) at least in part through online learning, with some element of student control over time, place, path, and/or pace;

(2) at least in part in a supervised brick-and-mortar location away from home;

(3) and the modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience.

The majority of blended-learning programs resemble one of four models: Rotation, Flex, A La Carte, and Enriched Virtual. The Rotation model includes four sub-models: Station Rotation, Lab Rotation, Flipped Classroom, and Individual Rotation.



1. **Rotation model** – a course or subject in which students rotate on a fixed schedule or at the teacher's discretion between learning modalities, at least one of which is online learning. Other modalities might include activities such as small-group or full-class instruction, group projects, individual tutoring, and pencil-and-paper assignments. The students learn mostly on the brick-and-mortar campus, except for any homework assignments.

a. **Station Rotation** – a course or subject in which students experience the Rotation model within a contained classroom or group of classrooms. The Station Rotation model differs from the Individual Rotation model because students rotate through all of the stations, not only those on their custom schedules.

b. **Lab Rotation** – a course or subject in which students rotate to a computer lab for the online-learning station.

c. **Flipped Classroom** – a course or subject in which students participate in online learning off-site in place of traditional homework and then attend the brick-and-mortar school for face-to-face, teacher-guided practice or projects. The primary delivery of content and instruction is online, which differentiates a Flipped Classroom from students who are merely doing homework practice online at night.

d. **Individual Rotation** – a course or subject in which each student has an individualized playlist and does not necessarily rotate to each available station or modality. An algorithm or teacher(s) sets individual student schedules.

2. **Flex model** – a course or subject in which online learning is the backbone of student learning, even if it directs students to offline activities at times. Students move on an individually customized, fluid schedule among learning modalities. The teacher of record is on-site, and students learn mostly on the brick-and-mortar campus, except for any homework assignments. The teacher of record or other adults provide face-to-face support on a flexible and adaptive as-needed basis through activities such as small-group instruction, group projects, and individual tutoring.

3. **A La Carte model** – a course that a student takes entirely online to accompany other experiences that the student is having at a brick-and-mortar school or learning center. The teacher of record for the A La Carte course is the online teacher. Students may take the A La Carte course either on the brick-and-mortar campus or off-site. This differs from full-time online learning because it is not a whole-school experience. Students take some courses A La Carte and others face-to-face at a brick-and-mortar campus.

4. **Enriched Virtual model** – a course or subject in which students have required face-to-face learning sessions with their teacher of record and then are free to complete their remaining coursework remote from the face-to-face teacher. Online learning is the backbone of student learning when the students are located remotely. The same person generally serves as both the online and face-to-face teacher. The Enriched Virtual model differs from the Flipped Classroom because in Enriched Virtual programs, students seldom meet face-to-face with their teachers every weekday. It differs from a fully online course because face-to-face learning sessions are more than optional office hours or social events; they are required.

— Adapted from Christensen Institute

C. What Do You Need to Know about Digital Content?[20, 21]

In exploring how to select digital content, it should be considered within the articulated theory of learning, including face-to-face instruction. Districts and schools should ask themselves the following questions:[22]

- What role does each digital content provider serve in my academic agenda?
- What student needs does this digital content provider address, and how?
- At what level of Bloom's Taxonomy (or other taxonomy) does it assess?
- How is data from each of these tools being used to guide and empower students?
- How are opportunities for students being created to show what they know via deeper learning?
- Is the content aligned to state standards and the Common Core?
- How is it designed to respond to students with specific educational needs? For example, is it built upon Universal Design for Learning? Does it offer supports to English language learners?
- In what way is digital content personalized? Specifically, to what degree can students take advantage of different pathways within the content?
- In what way is the digital content adaptive and/or assignable?
- What access do educators have to data on students and their progress?
- Does digital curriculum allow students to dive more deeply rather than only move on to more advanced levels?

Digital content will have different aspects of personalized learning and not others. Therefore, schools may want to supplement or enhance the learning experiences. Schools for the Future (SFF) approaches enhancing the learning experience for students through performance tasks that have been developed for all subjects and that are aligned to the digital content material. Even if the digital content may not be as personalized or motivating, students know they will have the opportunity to apply the skills and content in meaningful ways. In this way, SFF takes advantage of the benefits of digital content without being limited by it.

In another example, the Education Achievement Authority (EAA) helps students gain agency and enables them to choose (unless a teacher determines otherwise) from several sources of standards-aligned digital content resources, as well as textbooks. Elementary school students may choose from ST Math, Imagine, and ALEKS. EAA has provided modules complete with standards, rubrics, and options for instruction, practice, application, and assessment. Modules can be modified by limiting or expanding options at the school, classroom, and individual student level. In competency education models, teachers are responsible for ensuring students are successful in reaching proficiency and for assessing their level of mastery. Given this responsibility, teachers also want the ability to assign content.

In the convening, experts in competency education expressed that not all digital content has clear and transparent learning objectives, nor a clear guide as to how students are assessed or to what level of depth of knowledge. Below are three concerns raised by experts about digital content in a competency-based environment.

1. **Learning Objective Transparency:** In a competency-based system, transparency is a core value, and the lack of it can be very problematic for students and teachers alike. Competency-based educators are unlikely to be comfortable with digital content if students cannot know the learning objectives and how proficiency will be determined. Without that information, it is difficult for students to take ownership of their learning. Thus, teachers need to know the level of cognitive demand, sometimes referred to as the cognitive load, and the specific tasks required in the digital content.

2. **Protecting High Expectations:** A related issue is the alignment between how a competency-based school determines proficiency as compared to the digital content. In competency-based schools, educators work together to calibrate their understanding of proficiency, including the depth of learning based on a knowledge taxonomy such as Bloom's, Marzano's, or Webb's. They also create rubrics describing what a student must be able to know and show to demonstrate mastery. Where standards alignment might be a given in digital content, the depth of learning of the assessment portion can be a question for competency-based educators. If the standard is written to be assessed at analysis or strategic thinking, then educators need to be confident that the embedded assessments in the digital content will support the high expectations.

   Some educators in competency schools are concerned that relying too heavily on digital content will lead to lower standards of proficiency. They argue that passing eight out of ten questions correctly is too limited an understanding of proficiency. Digital content tends to be best for helping students build skills at the levels of recall and comprehension, which is why student progress in digital content should be considered as just one of the multiple measures to determine proficiency. Teachers in competency-based schools may need to calibrate their own understanding of proficiency and then assess the depth of knowledge used in digital content. Relying on a variety of student evidence to demonstrate proficiency, including performance-based assessments and performance tasks, is critical to ensuring students can demonstrate mastery at high levels.

   The Schools for the Future model mentioned before is one place where digital learning opportunities are balanced and calibrated through performance tasks at different stages. Before students move on to the next level, they are given aligned performance tasks, which are considered a kind of gatekeeper. If the digital content or online learning program isn't aligned with the school's idea of proficiency, it shows up quickly, and educators then know they need to bolster the instructional approach or change content resources.

3. **Designing for Differentiation:** Many competency-based educators are concerned when digital content doesn't take into account the principles of Universal Design for Learning (UDL) so that the content is accessible to *all* students, including students with disabilities. Competency education can only work for all students if supports and real-time intervention are in place.

When content is built on the principals of UDL, it is presented in different ways, students have differentiated ways to demonstrate what they know, and content is designed in multiple ways to engage students. For example, at Making Community Connections Charter School, the principals of UDL don't just serve students with disabilities, but *every* student, and point the way to how technology can transform the learning experience.

Digital content also holds the capacity to be designed to support students in building language and literacy skills. Digital content that is text heavy without adequate prompts and tools leaves English language learners at a disadvantage, but this doesn't have to be the case. In fact, with digital learning, it's possible to consider speaking a language other than English as an asset instead, where digital content reinforces home languages so students can build dual language skills.

D. What Is Needed to Improve Technology to Support Competency Education Approaches?[23, 24]

Competency education can be greatly enhanced by technology. By working together, districts and technology vendors can focus on two areas that have the potential to advance the field. First, student information systems need to be upgraded to provide comprehensive information management systems that can monitor and report on student learning. Current student information systems in schools lack utility for supporting competency education. Schools need student information systems that do more than reporting grades and test scores—these systems must be designed around student learning to track academic progress along the progression of standards, to include multiple forms of evidence of student learning, and to take into account habits, skills, and dispositions. In addition, these technology systems need to have the framework for a more modular scheduling functionality that offers greater flexibility than traditional calendars and semesters and also supports grouping and regrouping students based on academic need instead of fixed age-cohorts. Finally, systems need to be able to accumulate data on student learning year by year so schools can build greater understanding of how students are progressing.

Second, as discussed above, digital content needs to become more transparent regarding depth of knowledge so that teachers can more easily integrate it within the overall pedagogical approach. The more easily student data from digital content can be integrated into the student learning system, the more helpful it is for students, parents, and teachers to monitor pace and progress. Interoperability is essential in creating a robust system for monitoring learning.

Eventually, we hope to see the capacity to create district-level or perhaps even state-level dashboards that allow education leaders to monitor how students are progressing and identify early on when students, teachers, or a school is encountering difficulties.

ELIMINATING ATTRIBUTION ERROR ON THE PATH TO EQUITY

In order to create an equitable education system, we need to reduce the predictive value of race, gender, class, and disability in the classroom.[25] In the blaming culture of the traditional educational system, we point to children or their families as the problem when students aren't successfully learning, rather than revisit our educational designs and structures. In competency education, students who are struggling are identified quickly and receive additional supports. In addition, the continuous improvement cycle can identify and address patterns of inequity in resources, learning experiences, or access to highly qualified teachers.

Given that high quality competency education rests on having respectful relationships between students and teachers, eliminating attribution error is a critical step.[26] Attribution error is when we assume a deficit to explain behavior. For example, believing that a student who is always late doesn't care about her education, when in fact she cares so deeply about education she drops her siblings at school and then takes three different buses to get to class each morning. We need to begin with the assumption that we are all at risk of making the wrong assumptions about students. The following are suggestions gathered at the convening on how to rid your school of attribution error.

- **Cleaning Up the Language of Learning:** The language of learning in a traditional system is limited to smart, fast, or ahead. Students are racing ahead, falling behind, or on different tracks (even though we don't like to admit that these descriptions still exist). In order to eliminate attribution errors, we need to let go of the adjectives and create a data-driven language of learning that indicates what level students are at on a learning progression, the pace of learning, their growth, and the depth of their learning.
- **Starting with Honesty:** In competency education, data on student learning is a powerful tool for challenging patterns of inequity. Instead of giving students passing grades for good behavior and/or using bad behavior as an academic marker, educators are required to talk with students and parents about the exact level students are at on the learning progression, regardless of how they act in class. It may feel counterintuitive, but by being honest about where students are, we create the opportunity to lift them up rather than limiting their future by telling them that all is fine when it isn't.
- **Assessing the Environment:** Instead of seeing the deficits located with the child, consider the school capacity and classroom environment as the target of change. Conditions for learning are affected by school climate, social-emotional learning, discipline policies, and attitudes around difference. To provide an environment where students matter and can be engaged in learning, you may need to address these elements. In what way is your school enabling or disabling for your lowest achieving students? Do you know your students' strengths as well as their academic deficits? Are students able to engage in critical thinking, creativity, and deeper learning regardless of their skill levels or cultural background, or does the school push low-achieving students into low depth of knowledge learning? Do students have choice about curriculum and projects to pursue topics that are culturally relevant to them? Do all courses incorporate Universal Designs for Learning?
- **Investing in Agency:** The behavior of students is shaped by how they are motivated, their aspirations and fears, their skill at handling conflict and complex problems, and their sense of what is possible. Given that many students are in special education because of behavioral

issues, it is imperative that we integrate strategies into the core of the school to help students learn productive behaviors. For example, at Making Community Connections Charter School, teachers use a technique called "negotiated release" to help students learn habits. By using very precise rubrics to help students reflect upon and understand the specific behaviors that are needed to manage themselves and navigate the school environment, students are able to build a broad set of skills.

- **Investing in Social and Educational Capital:** Our current accountability frameworks force a singular focus on what kids know. In order to understand equity gaps, schools need to take other things into consideration, such as who you know or what you've experienced in life. We need to be more deliberate about arming students with strong networks that can propel them forward—not just in learning, but in life. Schools need to be designed to expand social and educational capital (whether through networking options like peer-to-peer collaboration, mentors, and job shadowing, or educational capital like learning how to play instruments, participating in new sports, or school-related travel).
- **Breaking Down Bias:** It's too easy for bias to sneak into our work. We have to be on the lookout for it, identify it, and learn from it. Do you have structures in place that can help you clean out attribution errors from your school, such as having PLCs surface and test assumptions and interpretations through activities like looking at student work without names or assessing student work in groups? Consider establishing peer advocates who can help when a student feels like an adult isn't really listening to them or understanding them.

VII. How Can Blended Districts Integrate a Competency-Based Structure?

Districts that have introduced blended learning share the common philosophy with competency-based schools that students learn differently, requiring schools to personalize the learning experiences. However, they've started with a different entry point by focusing on how technology can improve the delivery of instruction.

Depending on the strategies they have used, this means that blended districts and schools may have already developed the essential leadership and management capacities required for introducing the changes involved in creating a competency-based system. Because they see flexible pacing as an element for supporting student learning rather than focusing on fixed time for delivering curriculum, the concept of progress upon mastery has already taken root. In fact, blended classrooms where both the digital resources and face-to-face instruction are providing engaging educational opportunities and encouraging a high level of rigor for students to demonstrate mastery may have already created the capacity and a rational transition point for fully moving to competency education.

The reasons behind this transition vary. Some schools find that their students are not as self-directed as they need to be for college readiness. Others find that the level of proficiency has been set too low as students inch closer to graduation. Still others find that seat-time, schedules, and school calendars are getting in the way of students who can advance beyond grade level or are over-age and undercredited. Additionally, some schools will want to modify their digital learning modalities to have greater flexibility to respond to student agency and interests. In this way, they can expand learning experiences to encompass developing, demonstrating, and higher order skills through project-based learning and performance assessment tasks. Not all digital content or assessment systems are created equally, just as no two face to face classrooms are the same, and finding the right blended learning model and plan to shift to a comprehensive competency-based system is a worthy challenge on the path to transforming learning for students.

Because of the blended learning model's capacity for students to have flexible pacing, districts that are using blended learning may already describe themselves as competency-based. We must remember, however, that blended learning is not the same as competency education, which has several important design elements and characteristics beyond students advancing based on mastery. The core to competency-based education is students demonstrating mastery of competencies through application or performance. If a student doesn't demonstrate mastery, then a second core characteristic is for the system to provide supports to the student until they do demonstrate high levels of mastery. Transparent learning goals, student ownership of learning, advancement based on evidence of learning, and the ability to move forward to the next level or receive supports are all part of a competency education system.

The process of blended schools converting to a competency-based structure is just beginning. We know very little from firsthand knowledge at this point. Thus the following discussion on the key considerations is based on the insights of the technical assistance providers who are working with districts across the country.

1. **Invest in Leadership:** In the process of planning and implementing blended learning delivery models, most districts have already found that a top-down leadership and management approach has its limits. In competency education, top-down management is generally ineffective. Leaders in competency-based districts consistently raise the importance of developing a more adaptive leadership style,

such as distributed leadership or middle-up-down management. Lindsay Unified School District has experienced this first-hand. Their first and most important step in the process of change was investing in school leadership and district staff. As a team, they began to reflect on their leadership styles and discuss how to build capacity to engage others in decision-making.[27]

Virgel Hammonds, superintendent of RSU2 in Maine, emphasizes this point.

As districts and schools convert to proficiency-based learning, they are knocking down load-bearing walls. It's impossible to have all the answers because any organizational change often has multiple consequences. We have to let go of the pride of having all the answers. No one person is going to do this all by themselves or be able to figure it all out entirely by themselves. Instead, we have to ask ourselves, "How can we take a position of trust and respect that can harness the collective intelligence needed to bring about transformative change?"[28]

2. **Re-Visit the Mission and Vision:** Competency education rests on a foundation of transparency, empowerment, and shared purpose. If an inclusive process wasn't used to develop the district's mission, blended districts may want to re-visit their mission and vision by engaging the community to ensure that it reflects a shared purpose (not one defined solely from the superintendent and/or school board). Inclusive engagement processes to create a shared purpose and vision is essential for sustainability and changes in leadership.

   Given that we are still in relatively early stages of understanding what competency-based districts might look like as the system fully develops, the shared ownership is a critical element in the implementation process.

3. **Start with a Learning Culture:** Depending on the transition strategy and roll-out strategy, blended districts may have started with building a strong culture of learning, they may have emphasized individual teacher experimentation and innovation, or they may be working with something in between. That's why blended districts will want to consider the characteristics and strength of their culture of learning as they move toward competency education. A shared purpose and culture of learning is at the very heart of competency education.

   In fact, in competency education, the principles of the growth mindset apply to teachers and students alike. Creating this kind of shared culture of learning emphasizes efficacy over aptitude. Students and adults must believe that everybody can learn if they apply themselves and have access to adequate support. Characteristics of a culture of learning include commitment to all the students in the school (our kids, rather than my kids), transparency, treating failures as part of the process of learning, goal setting and reflection, use of data to make decisions, embedded professional development, and formals mechanisms for feedback.

4. **Calibrate Proficiency:** A required step in competency education is for teachers to work together to clarify what proficiency is for each standard, including the depth of learning based on a knowledge taxonomy. This starts with three ingredients: strong professional learning communities, a learning progression such as Common Core or other state standards, and a knowledge taxonomy such as Webb's or Bloom's. This includes teachers looking at student work together and clarifying what exactly is making it proficient or not. When done well, this process becomes embedded professional development as teachers begin to build their skills in assessing learning.

Most blended schools will have already purchased or developed online curriculum. This may be an asset, as it can accelerate the process of calibration, or it may create frustration if the levels of proficiency are not transparent or are lower than what teachers agree upon.

5. **Nurture Student Agency:** Student agency is an integral part of competency education. In the process of implementing blended learning, schools will have an increased understanding that the greater the level of student ownership of their learning, the more easily teachers can take on the role of facilitator. Yet they may have little in place to support student agency beyond the self-directed learning that is inherent in some digital content.

   Student agency begins with transparency of the learning expectations, which is then supported by helping students to build the skills through habits of learning or lifelong learning competencies. In competency education, academic progress is separated from behaviors so that grading becomes feedback on progress. Teachers engage students in reflecting on the behaviors that are important for learning and applying their learning. Well-designed habits or lifelong learning competencies emphasize the qualities of an effective and independent learner as developmentally appropriate in their journey toward college- and career-readiness.

   Separating behaviors from academic progress in grading means that schools need to deeply understand theories and practices for motivating and engaging students, as point-driven compliance is no longer available as a carrot or stick. Competency-based schools create rituals and routines that reinforce student agency and intrinsic motivation. These rituals and routines meet an important function of building student ownership of their learning, creating a culture of peer support that reduces demand on teachers to resolve every question, and of offering opportunities for choice and co-designing curriculum.

6. **Advance Students Based on Demonstrated Mastery:** One of the benefits of blended learning using digital content is the enriched data that is available regarding student learning. Yet, as discussed previously, that data is only one indicator and should not be used alone to determine student proficiency or readiness to advance to the next academic level. Depending on where they are in their development, blended districts and schools may be still using A–F grading systems and standards-referenced grading, or they may have made the crucial shift to standards-based grading in which students only move on to the next academic level when they have reached demonstrated proficiency.

   Competency education takes standards-referenced grading one step further, since students are monitored based on their level on the learning progression and evidence, not necessarily on the grade-level standards. For example, Chugach School District has ten levels across the K-12 span. Thus, a ninth grade student may be working on Level 7 English language arts standards and Level 10 math. Competency-based schools manage this distinction by referring to grade levels and academic levels simultaneously.

   Competency-based schools still need to develop ways to manage this information, as it generates much more data on student learning than the traditional grading system. Because most student information systems are course-centered rather than learner-centered in their designs, they are not able to meet this requirement. Thus, competency-based schools have been turning to information management systems such as Buzz used by Education Achievement Authority or Educate used by schools in the Reinventing Schools Coalition.

Finally, it is important for schools to coach students about pace and progress. This is usually a combination of creating a strong adviser role, developing personalized learning plans or trajectories that indicate the rate of learning students will need to be on track, and holding honest conversations with students and families about where they are on their learning progression.

7. **Design for Not Yet Proficient With Adequate Support:**[29] Once a school stops passing students along to the next course or grade with Cs and Ds, it must face up to building adequate supports for students who need extra help or who are not yet proficient. Blended learning is likely to be of substantial help here, especially as some adaptive digital content is helpful for students to get more practice and rapid feedback on standards at the levels of recall and comprehension.

   Schools will need to ensure that extra help is available to students every day during the school day. Depending solely on making help available after school and lunch will mean that some students won't get help and that teachers will feel frustrated and guilty. In competency-based schools, support is a school-wide responsibility shared by all teachers. For example, teachers need to feel comfortable if a student who is on pace in their English class decides to use the time to work on math if they are behind.

8. **Plan for Application and Knowledge Utilization:** Many blended schools have emphasized high quality face-to-face instruction as well as high quality online tools and resources. Others have focused implementations of digital content on identifying skills gaps and freeing up class time for higher order thinking and application. If the digital content is focused on lower-level skills, it is important the students are validating the level of application of knowledge and adaptation in different contexts. An essential part of competency education is ensuring that students can apply their learning at the deeper levels of learning: analysis, synthesis, and evaluation. Without some opportunities to apply that knowledge more deeply, schools are providing a less-than-desired quality of learning.

   The Common Core is challenging schools to expand their capacity to support students in building their skills at the higher levels of knowledge, regardless of whether they are traditional, competency-based, online, or blended delivery models. The emphasis on higher order skills requires schools to explicitly use a knowledge taxonomy to create common language for teachers and students, as well as develop performance tasks and assessments. Furthermore, robust project-based learning allows students to apply their academic, habits, and technical skills.

   In order to fully build a performance-based capacity, schools need to rethink how they use time. Bells, schedules, and calendars can all be modified to provide greater flexibility and more in-depth learning. Learning can be extended beyond the classroom, too. Schools that rely heavily on digital content with embedded assessments may also need to further align performance tasks and assessments to validate high levels of demonstrated competency.

TIME MATTERS: HOW WE USE FLEXIBLE TIME TO DESIGN HIGHER AND DEEPER LEARNING

All personalization efforts revolve around one important issue: when learning is done on a deeper level, it takes longer to accomplish.[30] Thus, learning experiences that allow students to delve into topics and apply their skills are often more complex to design. Schools must think about how they are structuring learning within the school day, semester, and year so they have more options for deeper learning with greater integration of standards and skills: formative assessment, complex tasks, project- or problem-based learning that is open-ended knowledge utilization (e.g., Webb's Level 4), extended learning into the community, and capstone projects co-designed by students. Pittsfield Middle and High School has learning studios, Danville School District uses intersessions, Boston Day and Evening Academy offers month-long projects in December, and Casco Bay High School features intensives.

Although schools need to have a pool of performance tasks and performance-based assessments, deeper learning is most meaningful to students when it is authentically rooted in their own lives. Perhaps it is related to career interests, an illness of a family member, violence in their community, or a relevant international issue. Students at Chugach School District can co-design Independent Learning Plans to pursue building skills within the context of high-interest topics. ACE Leadership in New Mexico partners with employers to create projects based on authentic industry problems, allowing students to make the connections between their education and their future. Higher level learning is usually a combination of application of academic skills, application of communication skills, and demonstration of habits. Technical skills will also be included in projects that have a strong career and technical context.

Schools also need to consider the cognitive load (the level of intellectual challenge) of their curriculum. For schools that rely heavily on digital content, educators need to know the depth of learning and be prepared to supplement if it doesn't meet the level of proficiency required by the standards. Furthermore, it's important to recognize that all projects are not necessarily project-based learning. Deeper learning requires teachers to have expertise in assessing the application of skills and student habits. Given that the ability of teachers to design and assess more complex learning is dependent on their expertise, principals will need to provide ongoing professional development to build capacity and shared understanding, and ensure that their team of teachers includes those who can guide the more complex, longer projects as well as mentor other teachers.

Some schools and teachers emphasize project-based learning as the process of learning itself. This can be particularly helpful for students who need meaning and connection in order to be highly engaged in learning. Project- and problem-based learning as the pedagogical strategy can also guard against higher achieving students having access to higher learning while struggling students are left in the lower levels of learning. The project can be both the learning and the assessment. The opportunity for students to boost their skills can be integrated into the project along with research, reflection, product, and presentation.[31] Digital content, which is particularly helpful for lower levels of recall and comprehension, can be helpful for students to build the prerequisite skills.

VIII. What Are the Recommendations for Moving Forward?

Districts and schools at the cutting edge of innovation begin the transformation process even when the conditions are not always in place. For foundations and policymakers who want to help improve the conditions for the transformation to personalization, the participants at the convening suggested five opportunities: Improving the Human Capital Pipeline, Comprehensive Resources, Supportive Policy, Data Infrastructure and Technology Ecosystem, and Community Engagement and Public Will.

1. Improving the Human Capital Pipeline

All agree that the faster the pipeline for developing new teachers is upgraded—preparing them to manage personalized classrooms, develop blended learning, help students build the skills for ownership of their education, and assess proficiency at higher levels of knowledge—the better our country can make the transition to personalization. Adults in the system should have access to personalized, competency-based pathways to gain new knowledge and the skills they will need to lead next generation learning models. Technical assistance providers, preparation programs, professional development organizations, and intermediary organizations can all expedite the process by modeling professional development around personalizing education through a competency-based infrastructure and blended learning instructional delivery system. A future where licensure and certification as well as continuing education credits are tied to demonstrated competency of knowledge, skills, and dispositions will improve and update the human capital pipeline to create next generation learning models. At the same time, state government and institutions of higher education both play a critical role in upgrading teacher preparation programs, certification, and licensure based on competency.[32]

2. Comprehensive Resources

Attendees of the convening discussed the need for upgrading resources to better encompass all the aspects of personalized learning, competency-based structures, and blended instruction. This might include revising planning resources, developing comprehensive case studies, organizing joint school visits, and intentionally developing mechanisms for sharing information across the fields. A first step might be to develop a rubric that integrates the design elements of all three reforms into one tool that districts can use to think about full transformation. Districts and schools could then initiate self-assessments and determine how far along the spectrum they want or can go for each element. This approach allows for schools to own their design and pathways—likely increasing the diversity of innovations.

3. Supportive Policy

The education policy infrastructure needs to be aligned to support personalization and competency-based progressions. Policy shifts are needed, including designing accountability models that support higher order skills, valuing cultures of collaboration in schools, investing in systems of assessments, and school autonomy. During the convening, participants suggested that designing systems of checks and balances across all levels of governance can provide the necessary autonomy while also ensuring quality. For example, schools could be free to design their own performance tasks and assessments. To ensure quality, districts would be responsible for reviewing and sharing the highest quality assessments among schools. When locally developed, assessments are part of a summative system, and it is important to include rigorous, third-party verified assessments that are calibrated to standards to ensure quality and equity. Creating room in federal, state, and local policy to encourage innovation space is needed at all levels (with appropriate checks and balances).

4. Data Infrastructure and Technology Ecosystem

Even though competency-based education is expanding across the country, with the majority of New England states embracing it, the education technology market is not up to speed with the requirement of competency-based systems. As discussed earlier, digital content is often not designed in a way that can be easily used within competency-based classrooms. Student information systems and grading systems continue to depend on standards within a course, instead of being designed in a way that is learner-centered. Associations, foundations, and networks can play a powerful role in aggregating the demand, clarifying the specifications, and convening private sector vendors, investors, and trade organizations so they understand the needs of the market.

5. Community Engagement and Public Will[33]

One of the biggest takeaways from the convening was the importance of patient, effective communication and stakeholder engagement. Implementation of a high quality community engagement program will take an estimated three to five years, and it will be critical to bring stakeholders at all levels—parents, teachers, students, and administrators—along through all the steps of planning and implementation. Buy-in strategies are inadequate for this level of transformation. Stakeholders should be engaged early in setting the vision, and should remain engaged as implementation plans are created.[34]

Communication and messages continue to be a challenge as new definitions develop for each of the strategies. It would benefit the field to have communication strategists develop crisp explanations of how personalized learning, blended learning, and competency education relate to each other. It would also be beneficial to have messages tested with a variety of stakeholders, especially those communities that have been historically underserved, so that district leadership can have confidence they are using the best communication strategies available to help their communities understand the reason why change is needed and how new learning models will benefit students.

IX. Concluding Remarks

Transforming a district or school or creating a new school is hard work. It requires extraordinary leadership throughout the layers of the education system, as everyone must commit to deconstructing the old system with all its complexities while simultaneously building up new structures and language. It takes time, anywhere from five to ten years, to thoroughly implement new practices and policies and eliminate the old. It also takes time to learn about how to fully integrate each piece of the personalization puzzle: student agency, blended instruction, competency-based structures, deeper learning, and performance assessment. Yet, we all know that each year we are not successful in educating students will have an impact on their lives and on the strength of our nation. There must be a way to expedite the process so that we can offer balanced, comprehensive learning experiences to students now, not ten years from now.

Technical assistance providers play a catalytic role in the ability of any new idea to take root and spread. This convening of technical assistance providers from the fields of blended learning and competency education was an important first step in integrating the knowledge bases toward personalization. Not only did it enable us to find commonalities and strengths, but it also helped to identify gaps where further work needs to be done.

First, the implications of designing schools to empower student agency require much more attention, with a special emphasis on understanding the increased autonomy that teachers and schools will need. Second, it is clear that further integration is needed of project-based learning and performance assessment to ensure that students in the new learning models have access to the highest levels of learning. Third, by more deeply understanding implications of design decisions, we can become more intentional about where and how we can use technology to expand services and increase effectiveness. Finally, and most importantly, if we are going to take advantage of the conversions appropriately, we must clean house and rid our education system of institutional patterns of inequity. This will require fully integrating what we know about educating our most underserved students—such as English language learners, students with disabilities, African-Americans, Latinos, and Native Americans—into the very core of school design and instruction. To do anything else is to leave them marginalized and undermine the entire movement for personalized learning.

We hope that with this paper, you now have a lay of the land you will be navigating as you continue to transform your district and school to offer greater personalization to your students. This conversation will continue on CompetencyWorks. We invite you to share your insights and lessons learned, as well. The most valuable knowledge is that which practitioners are developing here on the cutting edge of transformation.

Endnotes

[1] The term **personalization** is used to refer to the overarching strategy of creating educational experiences based on individual student needs as compared to that of the traditional time-based model that provides the same curriculum and amount of instruction for all students. The phrase **personalized learning** is used to refer to the specific approaches of how a school responds to the needs, interests, and strengths of students.

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About the Authors

Susan Patrick

Susan Patrick is the President and CEO of the International Association for K–12 Online Learning (iNACOL) and a national expert in educational technology, competency education, and K–12 online learning trends nationally and internationally. She is the former Director of Educational Technology at the US Department of Education.

Chris Sturgis

Chris Sturgis is Principal of MetisNet, a consulting firm based in Santa Fe, New Mexico, that specializes in supporting foundations and special initiatives in strategy development, coaching, and rapid research. MetisNet specializes in competency education, high school reform, dropout recovery, youth issues, and community engagement. Chris brings a commitment to drawing on local knowledge (metis) early in the design process to ensure that problem definition reflects the realities of communities. Her knowledge of philanthropy was developed while at the Charles Stewart Mott Foundation and Omidyar Foundation. Prior to joining the philanthropic sector, she worked in state government, human service organizations, and campaigns. She has consulted to the U.S. Department of Education on secondary school policy. She is co-founder of the Youth Transition Funders Group and contributes to the Connected by 25 blog. Chris is a co-founder of CompetencyWorks.

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TOLL-FREE 888.95.NACOL (888.956.2265) DIRECT 703.752.6216 FAX 703.752.6201
EMAIL info@inacol.org WEB www.inacol.org
MAIL 1934 Old Gallows Road, Suite 350, Vienna, VA 22182-4040