SHOW WHAT YOU KNOW

A Landscape Analysis of Competency-Based Education

GETTING SMART

REPORT COMMISSIONED BY XQ INSTITUTE

Contents

Foreword: Highlights and Reflections

For more than 125 years, most of the world has relied on artificial proxies for learning — courses taken, years completed. Students are placed into age-based cohorts when they enter school and move through grade levels as they get older, rather than progressing as they demonstrate mastery. This system relies on seat-time over mastery, and its rules are organized accordingly.

What's clear today is that some of those rules are getting in the way of important efforts to improve American education, especially in high schools. Across the country, educators and their community partners are trying to respond to student learning outcomes that are woefully uneven by race and class and mediocre by international standards with in-school and out-of-school learning experiences all students need to thrive in our changing world.

As part of that work, teachers and leaders are exploring ways to tailor teaching and learning to the unique needs of individual students, and to provide the necessary support to each student along the way. They are designing models in which students advance on the basis of demonstrated mastery of essential knowledge and skills, rather than simply relying on seat time. This shift from time-based milestones to learning-based milestones is often referred to as "competency-based education."

But as these innovators work to put their ideas into place, they run straight into rules that divide student learning into individual courses, discrete subject matter, subject-specific teachers, and set numbers of instructional minutes. The most dedicated of these educators respond by creating elaborate, time-intensive work-arounds to map their work to the old system. Many more give up in frustration.

As we watched XQ schools and others around the country struggle with the twin challenges of fashioning entirely new learning systems and adapting these to the requirements of the old system, it became ever clearer to us that action is necessary to ease the way on both fronts: creating new learning systems and modernizing system rules.

To help us chart a path forward, we asked the experts at Getting Smart to conduct a landscape

analysis of the status of competency-based education in the U.S., including recommendations for action. When we received their report, we realized that its findings and recommendations are important not just for XQ, but for those who are actively exploring competency-based education already and the entire field. We have therefore decided to publish and share the results of this analysis — along with our own take-aways — in the same spirit of "open sourcing" that guides all our work.

Our purpose in sharing this report is to spur much-needed dialogue about the shift to competency-based education and how that shift can be done in ways that advance equity, ensure teachers have the tools they need, and open up new opportunities for truly effective high school learning. There are no prescriptions here. Instead, we hope the reader will find the evidence cited thought-provoking and engage in serious conversation about the compelling questions the report raises.

What Did Getting Smart Learn?

Research for this paper — which included in-depth interviews with more than 50 educators, analyses of more than 40 related publications, and dozens of school visits and observations of today's competency-based learning models in action — uncovered real enthusiasm for competency-based education.

The field has advanced significantly in the past few years. Around the country, motivated teachers and well-implemented competency-focused systems are helping students take responsibility for their own learning, experience deeper learning, and develop the habits of lifelong learners. And new resources and tools, including blockchain technology and machine learning, could make the path to quality easier for educators.

Despite recent progress, significant challenges continue to impede widespread adoption of competency-based approaches and models. Barriers include a lack of common definitions, transition challenges to support new roles for teachers and students, a lack of sufficient tools and resources, technical challenges around the inability to combine feedback from different sources, and the need for more descriptive transcripts accepted by postsecondary institutions. So how can we strengthen our collective ability to innovate and build capacity for competency-based education? Getting Smart recommends that people across the field concentrate their efforts on a set of core system components, including new competency-based networks and school models, new curriculum and assessment tools, a more coherent approach to developing exponential technology, innovation in overcoming technical barriers, and continued advocacy and case studies. Getting Smart also urges much greater alignment between K-12 and higher education.

Overall, Getting Smart's findings indicate that the shift to competency-based education is occurring rapidly, right now, and that there are significant opportunities to help make it happen faster, better, and more equitably. Importantly, they conclude that "real progress will depend on an ambitious and fundamental rethinking of what graduates need to know and be able to do, what evidence will be used to demonstrate and assess their learning, and, ultimately, how learning will be credentialed." Readers will find these and other findings, recommendations, and observations throughout the report.

Reflections on the Getting Smart Landscape Analysis

At XQ, we believe strongly that we need high school models that require students to demonstrate true mastery of knowledge, skills, and competencies, rather than rush through a list of learning objectives without truly mastering core competencies or applying their learning in new, authentic contexts. We also believe that expanded goals and definitions of success for high school students are greatly needed. Students need schools where they can progress based on mastery and, crucially, where those who enter high school with substantial academic gaps and challenges have the opportunity to catch up and accelerate their learning to achieve high levels of mastery.

While state-led efforts to develop college- and career-ready standards and the Next Generation Science Standards represent a critically important first step, most states have not yet ensured

equitable access to college-ready academic programs or gone beyond foundational academics to specify the cross-cutting skills or other capabilities students will need to thrive beyond graduation. That's why we developed our own XQ Learner Goals, and why we encourage states to design graduate profiles that reflect a broader definition of what students should know and be able to do to succeed in college, career, and life.

We understand that the shift from time to competency will not be sufficient on its own to assure that American high school students emerge from high school ready for college and the workplaces of the future. After all, we can point to plenty of examples of so-called "competency-based" systems that are ineffective and inadequate. Yet we do believe that the shift to competency-based education is one of several necessary shifts, along with broadening our goals for student learning to include developing cross-cutting skills and capacities, creating learning environments where students have voice and choice in their educational journeys, and expanding learning to take place in the broader community beyond the classroom walls.

Yet even as we recognize the importance of the shift to competency-based education, we, along with Getting Smart, acknowledge some real reasons for caution, in particular the additional demands these changes will place on teachers and the challenges inherent in implementing change within our deeply inequitable system.

Building Capacity without Increasing Burdens on Teachers

First, as the Getting Smart report points out, the transition from the old system to a new, competency-based system places considerable burdens on teachers. Grading practices will need to change profoundly, as will the ways in which teachers pace and sequence student learning. High-quality competency-based education will require teachers to provide ongoing and much more detailed feedback, as well as customized support to help each student achieve full mastery of key knowledge and skills, not just the "good enough" command that often earns a passing grade in traditional systems. The challenge is particularly great for students who enter high school significantly behind and lacking a firm academic foundation.

While touching on many important areas, this landscape analysis, as is the nature of such a report, does not point to detailed solutions to every important challenge facing the field. For example, we know that the burdens on teachers will not go away post-transition to competency-based education. At the high school level, where teachers typically see not 30 students a day but more than 150, providing detailed feedback and customized support is simply not manageable at scale without fundamental redesign of our high schools and the tools and supports teachers need to manage their instructional loads.

If we do not wish to add to the flood of teachers leaving the profession, we will need to figure out how to make teachers' work more manageable. Certainly, better tools will help. So will improved preparation, training, and compensation. But the job itself — not to mention the structure of the school around it — is also going to have to change. Like their counterparts in higher performing countries, our teachers will need more non-instructional time to devote to student feedback and support. Already, some of our best "next generation" schools are figuring this out. We need to learn from them, and fast.

Achieving Equity in an Inequitable Education System

Second, although the nation's strongest advocates for equity are painfully aware of the shortcomings of our time- and course-based system, many also worry about giving up even the admittedly weak protections that such a system offers to disadvantaged students, especially when all the critical resources in education remain so inequitably distributed. We share these concerns. When competency-based education incorporates a focus on equity, it has the potential to close gaps in educational access and outcomes and to improve college and career preparation for low-income students. Without an explicit equity focus, however,

competency-based education poses the risk of exacerbating existing gaps.

In our current system, where the deck is stacked against low-income students and students of color and they receive less of almost everything that matters, changing the rules of the game will not necessarily produce more equitable results. Even schools and districts deep into the shift to competency-based education have far more work to do to realize the full promise of competency-based systems. Low-income students and students of color in some of today's competency-based models are doing worse on traditional measures than their counterparts in more traditional schools—a challenge that many innovators are aware of and are actively seeking solutions.

Certainly, the strategies Getting Smart recommends — including building in equity on the front end of these efforts, smartly implementing tools for educators, and expanding guidance systems to help students navigate effectively through a system with more choices — will help. So, too, will their call for weighted student funding systems that provide schools serving concentrations of low-income students with the extra dollars they need to provide additional support.

What we need to get clearer about, however, are the foundational requirements and guard rails for moving forward. Knowing this, we feel compelled to ask:

"What, really, will it take for schools to enable every young person to emerge from high school fully ready for the future? And how, along the way, can students, families, and communities feel confident that high schools are meeting that expectation?"

Until we can answer those questions, parents and their advocates will be right to be skeptical. And we should be skeptical about rushing ahead.

In Conclusion

Getting Smart's bold and provocative report provides a foundation for asking questions that need to be asked and invites the kind of dialogue that is so sorely needed about the promise of competency-based education, how to advance equity, and the future of American high schools.

In addition, it poses a more fundamental question: Why has the old system proven so resistant to change? Getting Smart argues persuasively, and we agree, that change is difficult because the system is stuck. Stuck in conventional definitions, such as "ninth grader," that say little about where students really are in their learning and where they need to go. Stuck in routines that compartmentalize how and when teachers interact with students. Stuck with tools and resources designed for a more static system than today's students and teachers need. Stuck with college admissions requirements and state accountability systems that reinforce old expectations and make change feel risky to teachers, parents, high schools, and students themselves.

On top of these classic innovation challenges, we add another: the challenge of equity.

In a democracy, a public education system must stretch conventional notions of innovation to embrace a higher vision of the common good. Together, we need to be asking questions like these: Can our high schools close gaps in access and achievement and accelerate learning so all students achieve their potential? Can we use the talents of teachers and the power of technology to open new opportunities to learn and grow for many more students? Can competency-based education help us achieve those goals better than our current system? Can it help us get un-stuck from a system that perpetuates inequity for far too many students?

We hope you find these questions as compelling as we do. We urge everyone to read, think about, share, and discuss this important landscape analysis from Getting Smart. And we look forward to continued exploration of the many critical issues it raises.

— Russlynn Ali, CEO & Co-founder, XQ

Show What You Know:

A Landscape Analysis of Competency-Based Education

BY GETTING SMART

For the past 125 years, learning at both the secondary and postsecondary levels has been governed by a system of courses and credits, bolstered by standardized tests, that have largely been delivered through whole-group instruction to cohorts of same-age students.

That system has allowed us to define what we mean by a "high school diploma" and a "college education," and it has worked to signal the capabilities of students to colleges and employers. Designed for simplicity of delivery and student sorting, the system has proved both efficient and resilient. Today, despite efforts to replace or reform it, it remains the norm globally in secondary education.

With more relevant expressions of learning goals and more accurate demonstrations of growth, the world is shifting to competency by moving from:

- Keeping time to measuring progress.
- Age cohorts to dynamic individual progressions.
- Artificial measures of knowledge and skill to demonstrated capability.

The leading advocate for competency-based education (CBE), the International Association for K-12 Online Learning (iNACOL), defines it as an advancement on demonstrated mastery with well-defined competencies that empower students. They stress that students should receive meaningful feedback as well as timely and differentiated support so that they develop and apply a broad set of skills and dispositions.

The shift to demonstrated competence is very likely, and well underway in corporate learning and alternative higher education, but it is complex enough that it's likely to be a generation-long process in K-12 education. It is a multidimensional shift requiring new experiences; new staffing, supports, and structures; new teaching roles and capabilities; new assessments and reports; and new funding models and policies.

It even changes the basic architecture of school, requiring more flexible and multi-aged groups and learning spaces. It is complex on all levels — pedagogically, technically, and politically — and the change required to combat the gravitational pull of the traditional system, and to do so with a focus on equity, is not to be underestimated. The transition to competency is enabled by the shift to digital learning, but in some ways this has also added more complexity.

There is an opportunity to make the shift to competency happen faster, better, and more equitably by:

- Aiming to cut the time to near-full adoption in the U.S. from 20 to ten years.
- Focusing on broad college and career-ready outcomes, not just literacy and numeracy.
- Accelerating the achievement of previously underserved learners, rather than just accommodating learning differences.
- Aligning with quality learning goals and outcomes — for example, XQ's Learner Goals and outcome areas, whereby students are masters of all fundamental literacies, generous collaborators to tough problems, holders of foundational knowledge, original thinkers for an uncertain world, and learners for life.

The reasons to take a competency-based approach are many, and are further outlined in the rationale section below. In short, the payoff includes ensuring quality preparation and readiness for all students, realizing the benefits of learning science, working toward gap-closing equity, fostering student agency, educating for broader aims, and aligning with the world of work.

Definitions of Competency-Based Education and Related Terms

The most widely used definition of competency-based education has been established by iNACOL, an international non-profit dedicated to driving the transformation of education systems and accelerating the advancement of breakthrough policies and practices to ensure high-quality learning for all[1] — and CompetencyWorks, a project of iNACOL dedicated to providing information and knowledge about K-12 competency education.

At the core of this definition is a shift from time-based milestones to learning-based milestones as drivers in education. Several other organizations focus on CBE and tend to speak about CBE in a manner consistent with above, and yet each with their own nuances or connections. The following terms are used synonymously with CBE:

Competency education:
CompetencyWorks uses this as well as "competency-based education" (CBE).

Proficiency-based learning:
Great Schools Partnership and across New England.

Mastery-based learning:
popularized by Benjamin Bloom, now used in New York City.

While the above terms are largely synonymous, with the shift to personalized and digital learning, there are other terms in the educational dialogue that actually do have have nuanced differences (see adjacent box).

iNACOL DEFINITION OF COMPETENCY EDUCATION

- 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 and 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.

DEFINITIONS OF RELATED TERMS

Personalized Learning:

Tailoring learning for each student's strengths, needs, and interests — including enabling student voice and choice in what, how, when, and where they learn — to provide flexibility and supports to ensure mastery of the highest standards possible.[2]

Blended Learning:

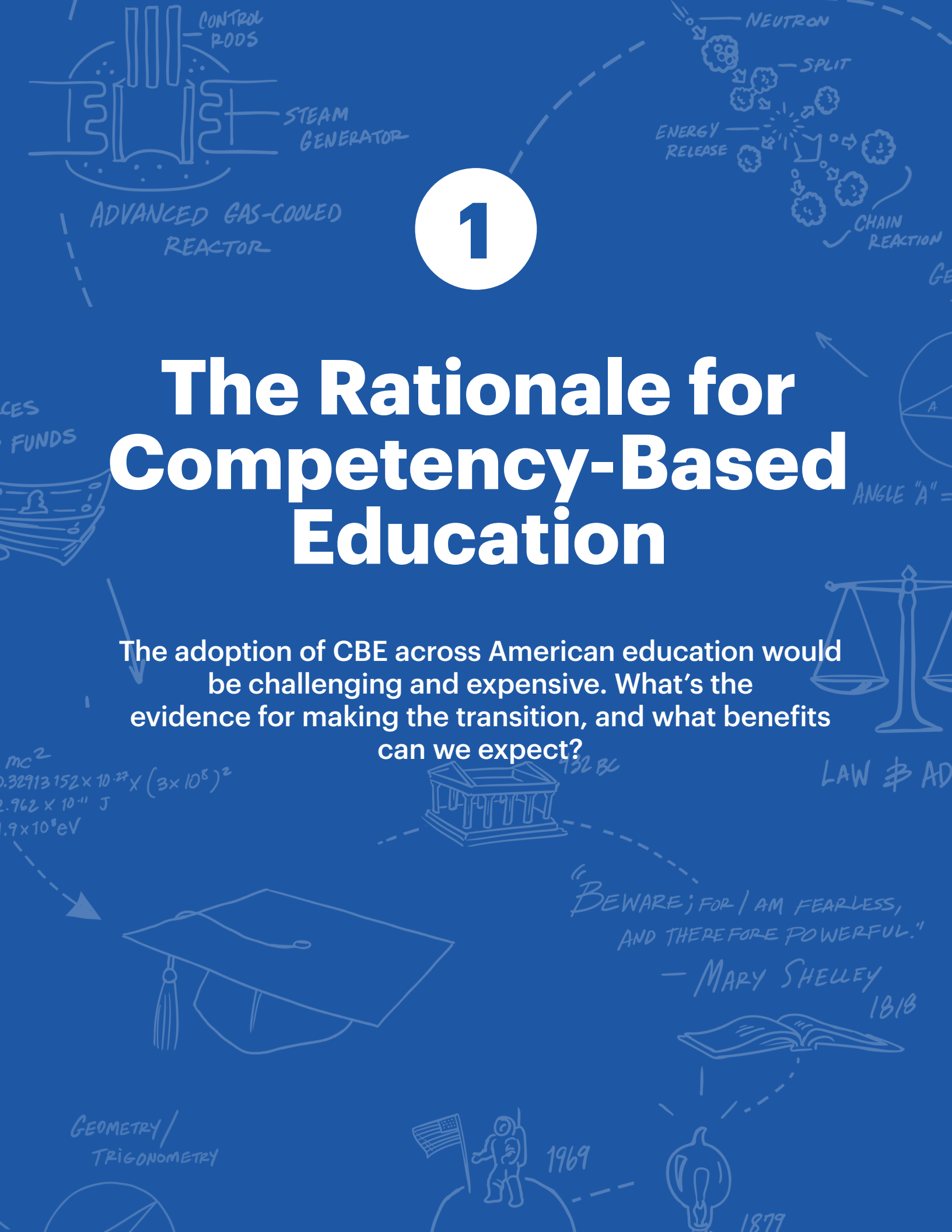
Any time a student learns, at least in part, at a supervised brick-and-mortar location away from home and, at least in part, through online delivery with some element of student control over time, place, path, and/or pace. The modalities along each student's learning path within a course or subject are connected to provide an integrated learning experience."[3]

Deeper Learning:

Popularized by the Hewlett Foundation, deeper learning experiences contribute to the development of skills and knowledge that students must possess to succeed in 21st-century jobs and civic life, including: 1) master core academic content, 2) think critically and solve complex problems, 3) work collaboratively, 4) communicate effectively, 5) learn how to learn, and 6) develop academic mindsets.[4]

Student-Centered Learning:

Nellie Mae Education Foundation, the leading champion of student-centered learning, identifies four key tenets of student-centered approaches that are essential to students' full engagement in achieving deeper learning outcomes: learning is personalized; learning is competency-based; learning takes place anytime, anywhere; students exert ownership over their learning.[5]



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The Rationale for Competency-Based Education

The adoption of CBE across American education would be challenging and expensive. What's the evidence for making the transition, and what benefits can we expect?

The shift to competency-based learning will not be an easy one, but the evidence for making the transition is clear.

Quality preparation

Much of the corporate training world has shifted from participation to demonstrated skills in order to improve job readiness. Blended and personalized approaches are more popular with employees and more cost-effective for employers.

As useful as his video tutorials have been, Sal Khan's big contribution to education may prove to be his advocacy for CBE. His now famous "house built on a bad foundation" analogy makes the case that passing students on who have only mastered 70 or 80 percent of the material leaves fatal gaps in understanding that are never likely to be closed, and leave learners unable to make creative know-how of the skill set. He argues that students should master skills at a high level before moving on to enable skill transference.[6]

Learning science

Advances in neuroscience are providing new understanding of how people learn. As Harvard's Todd Rose notes, there is no average; each of us has a "jagged profile."[7] He and others argue that we should address the individual needs of learners. "The research on how students learn examines how important it is to meet a student within their zone of proximal development, allow for productive struggle and design progressions effectively — where learning hinges on successful prior learning," according to iNACOL.[8] James Pellegrino's thinking, as reflected in the National Research Council's report "Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century," is critical. As the title suggests, it is no longer enough to simply develop skills and obtain knowledge; to achieve full potential, students will need to apply learning and transfer it to new contexts, which no doubt requires deeper learning and tapping into problem-solving, critical thinking, and self-management skills.

The XQ Knowledge Module on Teaching & Learning also points to the importance of transferability and deeper learning for long-term impact: "It is critical that students go from knowing (acquiring knowledge that can easily be forgotten) to understanding (internalizing knowledge so it can be applied in new situations)."[9] The ability to transfer knowledge to the real world is vitally important today. As Pellegrino notes, "For educational interventions focused on developing transferable competencies to move beyond isolated promising examples and flourish more widely in K-12 schooling, larger systemic issues and policies involving curriculum, instruction, assessment, and professional development will need to be addressed."[10]

Equity

In order to advance gap-closing equity, CBE needs to be designed and resourced so that structures, schedules, and supports can be aimed at struggling learners that need differential assistance and more time to accelerate their learning. With a focus on equity, CompetencyWorks suggests that effective CBE implementation ensures equally high outcomes for all learners, interrupts inequitable practices, and cultivates the unique gifts of every person. A subsequent section in this report is dedicated to this important topic.

Agency

More than a decade of research suggests that mindset matters significantly in post-secondary and career success.[11] [12] The extent to which a student owns their individual learning experiences — often referred to as agency — is key. Agency is represented in new outcome frameworks such as XQ Learner Goals and MyWays from Next Generation Learning Challenges (NGLC). Each of the experts interviewed spoke about learner agency as an important outcome of competency education.

Michelle Weise, in her former role as Senior Research Fellow on Higher Education of the Christensen Institute, said that the intent of CBE is "to be clear about a student's precise skillsets, dispositions, and capabilities in a way that seat-time-based learning is ill-equipped to reveal. A list of college credits and grades on a transcript or even a diploma more generally are poor proxies of what a student can do. Competencies, in contrast, offer a legible and meaningful reflection of what a student both knows and can do with that knowledge."[13]

The ultimate goal.

Developing XQ Learners — students who are deeply engaged in their own learning and fully prepared for all that the future has to offer.

This blueprint is not exhaustive — it is meant to illustrate how deep, rigorous, and interconnected XQ learning needs to be.

Masters of all fundamental literacies.

+ Building the academic core necessary to prepare for college, career, and life.
+ Critical readers.
+ Compelling writers.
+ Mathematical and numeric thinkers.
+ Data and visual thinkers.

Holders of foundational knowledge.

+ Curious people who are knowledgeable about the world. Its history and culture. Its sciences and underlying mathematics. Its biology and cultural currency.
+ Engaged participants who are key to creating a more just and functional democracy—who participate fully in all America has to offer.

Original thinkers for an uncertain world.

+ Sense-makers—dealing with conflicting knowledge.
+ Generative thinkers—creating many ideas in ambiguous and new situations.
+ Creative thinkers—reframing, imagining, and seeing problems from different perspectives.

Generous collaborators for tough problems.

+ Self-aware team members who bring their strengths. Talent-seekers who find the expertise of others.
+ Essential co-creators—because of what they bring, and how they show up.
+ Inquisitive world citizens who seek out—and respect—diversity and diverse points of view.

Learners for life.

+ Self-driven, self-directed. Curious learners—about themselves, and the world.
+ Inventors of their own learning paths, careers, and lives.

Broader aims

While schools early in the transition to competency education focused primarily on core academic learning, there is now an increased emphasis at all levels (states, districts, and networks) on adding broader learning goals to reflect more than a decade of research into college, career, and life success. As a field, we are still trying to figure out how to effectively practice CBE for core outcome areas while also adding more outcome categories. We believe it is not only possible, but imperative, to integrate academic rigor and broader aims, and also recognize the inherent tension and complexity such an approach creates. Like the XQ Learner Goals and NGLC MyWays, several organizations have published or updated graduate profiles.

As an indicator of momentum in this area, in March of 2017, a network of 200 school districts launched the Profile of a Graduate campaign promoting adoption of learning goals including creativity, critical thinking, and collaboration. The website, now part of Battelle for Kids, includes a gallery of adopted profiles and an implementation guide. The Collaborative for Academic, Social, and Emotional Learning (CASEL) offers the most commonly referenced outcome framework for social and emotional learning (SEL), which is now widely recognized as key for career and life success (see a comparison of CASEL to other leading outcome frameworks).

Work is shifting to a focus on demonstrated competence

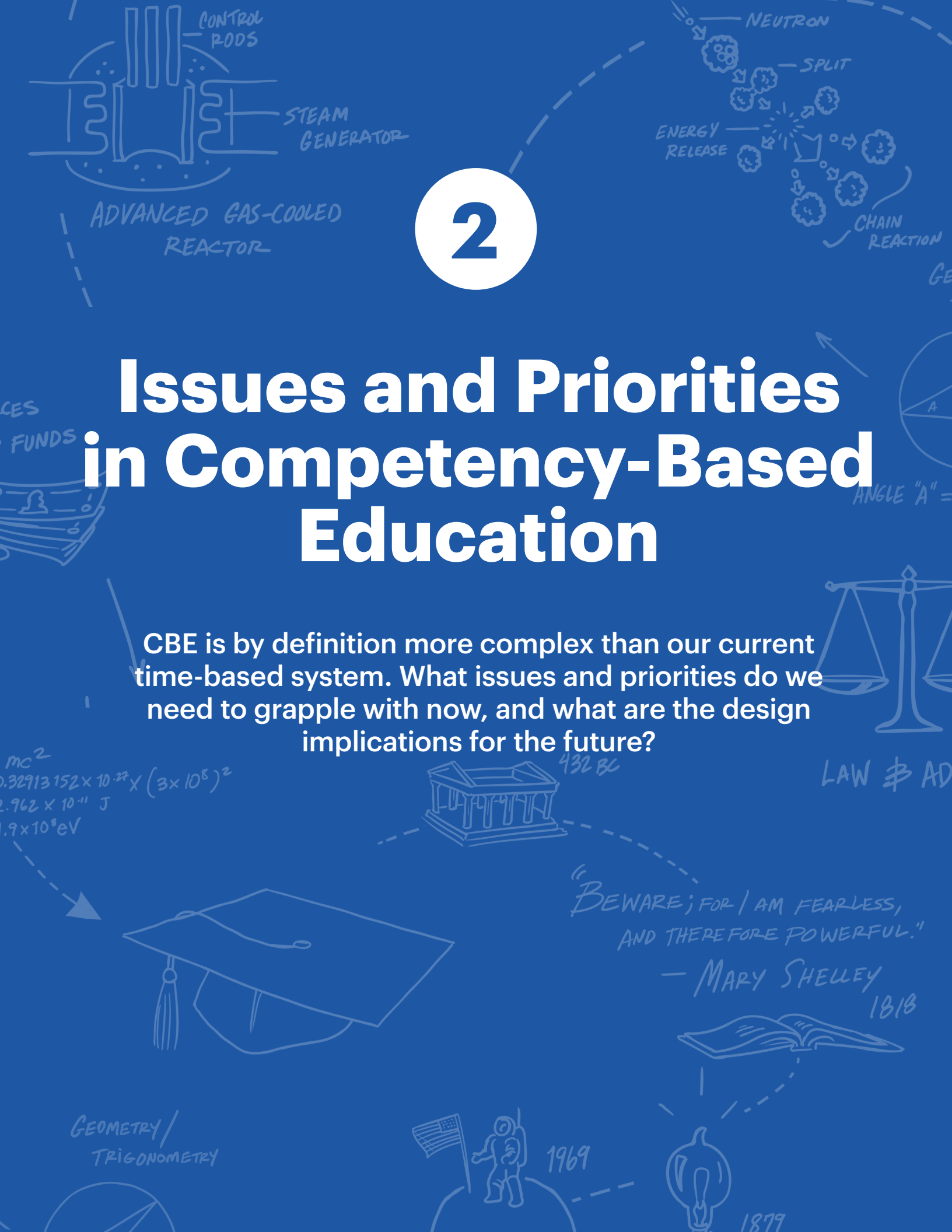
Both professional and higher education environments are also making the shift. Driven by changing job requirements and the need to accelerate skill development and verify job readiness, employers and education institutions are moving from requiring participation to requiring demonstration. The following are examples of developments in professional certification, post-secondary learning, and K-12 education.

Many professions require demonstrated mastery for licensure. Professions regulated by states — including medicine, law, engineering, and accounting — have competency-based entrance requirements that involve not only one or more multiple choice tests, but authentic assessments of mastery. Medical doctors, for example, are also required to complete a residency with an attending physician. Pilot licensing is administered by the Federal Aviation Administration. After receiving a private pilot's licence, a commercial pilot must earn an Airline Transport Pilot Licence, which requires a degree, a test, flight hours, and simulation hours.

Additional examples of professional learning shifting to competency include the explosion of Massive Open Online Courses (MOOCs) that have become popular for post-baccalaureate education, particularly in computer science. MOOCs providers including edX, Udacity, and Coursera offer multi-course certifications (nanodegrees and specializations, respectively) in technical subjects.

Hundreds of colleges and universities representing most states offer some form of CBE.[14] They most frequently target underprepared and non-degreed adults. For example, Southern New Hampshire University's College for America offers applied and flexible learning for working adults. In this accessible, affordable, achievable approach, students complete 30 projects and develop and demonstrate 120 competencies to earn an AA degree; another 20 projects earns them a BA.

Minerva, a highly selective global university, measures critical and creative thinking, communication, and social interaction — including 97 discrete habits of success and foundational concepts — through papers, projects, and participation. They also give the Collegiate Learning Assessment+ (CLA+) exam before and after the first year to demonstrate growth in critical thinking and communication (see the appendix of this report for additional examples).



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Issues and Priorities in Competency-Based Education

CBE is by definition more complex than our current time-based system. What issues and priorities do we need to grapple with now, and what are the design implications for the future?

The move to competency-based learning models raises serious practical and philosophical questions. This section discusses some of the major issues influencing the CBE landscape and the implications for the design choices ahead.

The Paradox of Competence

It is early in the shift from time-based to learning-based as the key milestones in education. CBE asks students to show what they know and allows them to progress as they demonstrate mastery. At the margins these two elements devolve to constructivists and reductionists — those that only accept authentic assessments (as demonstrations of learning) and teacher judgments of mastery versus consistently applied external validations of knowledge and skill.

Reductionists	Constructivists
Prefer consistently applied external validations of narrow measures of knowledge and skill.	Value authentic assessments of learning and teacher judgements of mastery.

Since Ted Sizer's Coalition of Essential Schools (formed in 1984), there have been networks of "show what you know schools" that, consistent with a constructivist approach, value project-based learning (PBL) and periodic public exhibitions of learning. Now often referred to as deeper learning networks as a result of Hewlett Foundation grants, school networks including New Tech Network, EL Education, Big Picture Learning, High Tech High, and Asia Society rely on cohort progressions out of tradition and equity-based intentions to maximize the benefits of peer learning.

At the other end of the spectrum are examples of online credit-recovery opportunities for students who have failed high school courses. Adaptive and diagnostic assessments quickly identify learning levels and gaps. Students move through asynchronous curriculum as rapidly as possible, taking end-of-unit multiple choice tests to demonstrate mastery. While designed to be useful for getting over-aged and under-credited students back on track, credit recovery programs typically have low-skill development benefits.

In this report we attempt to embrace the benefits and represent the learnings of these two camps — authentic high-agency student work resulting in public products and rigorous and scalable systems; individual, team, and cohort learning experiences; and extended deep dives and accelerated progress.

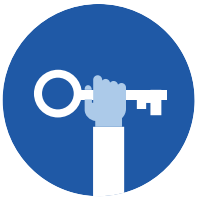
Closing Gaps with a Focus on Equity

CBE provides a great opportunity for gap-closing equity. However, as Achieve notes, "Without attention paid to risks to equity, competency-based pathways could have negligible effects on persistent disparities in performance among students by race/ethnicity, income, special education and ELL status. Far worse, it also could open up new achievement gaps — ones not based on different levels of performance but on the time it takes to reach standards, if different groups are moving at disproportionally slower paces through the content." [15]

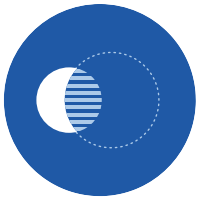
EQUITY PRINCIPLES

In order to seek educational equity, district and schools will...

Nurture Strong Culture of Learning and Inclusivity



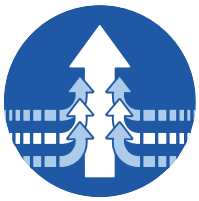
Support Students in Building Skills for Agency



Establish Transparency About Learning, Progress, and Pace

Engage Community in Shaping New Definitions of Success and Graduation Outcomes

Develop Shared Pedagogical Philosophy Based Learning Sciences



Ensure Consistency of Expectations and Understanding Proficiency

Monitor and Respond to Student Progress, Proficiency, and Pace

Invest in Adult MIndsets, Knowledge, and Skills

Respond and Adapt to Students Using Continuous Improvement Processes

Image source: Adapted from Quality and Equity by Design: Charting the Course For the Next Phase of Competency-Based Education, iNACOL.

It is imperative that significant efforts are made to pay attention to the risks and plan for CBE that closes, rather than exacerbates, gaps. The CompetencyWorks report "Quality and Equity by Design" offers a comprehensive framework for how equity can be woven into a CBE system. The principles are represented in the image above, and reflection questions for generating conversation can be found in the report.

In April 2018, CompetencyWorks and iNACOL released the report, Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed which unpacks each of the principles referenced in the graphic in the above graphics. Each principle is followed by key characteristics, a rationale which explains why the principle is important for equity, suggested policies and practices to guide further exploration, "look fors" and red flags which provide examples of effective or problematic practices to trigger capacity building, and reflection questions that serve to launch discussion.[16]

The Lumina Foundation has also provided guidance on how CBE can be used to help solve inequalities at the post-secondary level in the report "How

Competency-Based Education May Help Reduce Our Nation's Toughest Inequities." Stephanie Malia Krauss of Jobs for the Future, the author of the report, recommends three priority learners that CBE should focus on: 1) underserved learners of color, 2) unemployed and underemployed adults, and 3) adults with some college, but no credential.

From there, she outlines the priority programs that would best serve the needs of these individuals: 1) certificate and degree programs, 2) new forms of credentials, 3) general education courses, and 4) college access and success programming.

Jobs for the Future provides good guidance on how to potentially overcome equity pitfalls in their Students at the Center report, "Equity in Competency Education: Realizing the Potential, Overcoming the Obstacles." There are six potential learning inequities in CBE that the authors address, along with ways to possibly mitigate them: 1) metacognitive learning strategies, 2) self-regulation and perseverance, 3) technological access and use in schools, 4) technological access and use in homes, 5) technological use by individuals, and 6) access to learning content and learning experiences.

If competency-based systems are designed with equity in mind, they should yield an increase in the percentage of K-12 students that graduate ready to succeed in post-secondary learning and work. They will have verified skills with evidence of achievement.

WHY IS COMPETENCY-BASED SO HARD?

Six specific challenges include:

1. **Defining competencies:**
   A narrow checklist is reductionistic, broad competencies are hard to verify

2. **Transition challenges:**
   Transforming a system is a technical, pedagogical, cultural challenge

3. **Tools and resources:**
   Platforms and materials focus on age cohorts, they aren't built for individual progress

4. **Technical challenges:**
   Limited interoperability makes it hard to combine data

5. **Reporting:**
   Grading and reporting student progress, building common mastery transcripts, aggregating system level success measures are all new challenges

6. **Accountability:**
   Old systems (higher education, transcripts, NCAA) still rely on seat time and grade levels

Common Barriers to Competency-Based Education

Thus far, we have offered a definition, provided a rationale, and surfaced key issues and ideas. Before exploring design choices and learning tools for CBE, we believe it will be helpful to surface current barriers and inherent gaps. Expert interviews and research have identified six thematic areas with barriers to progress outlined below.

1. Defining competencies:

It is challenging to define competencies that are clear and signal important priorities without being reductive and inadequate.

Lack of well-defined competencies.
The development of Common Core State Standards was a step toward shared student learning goals in core subjects, but there are still thousands of objectives without aligned assessments.

Lack of equity as a priority.
Nick Donohue, President and CEO of Nellie Mae Education Foundation (NMEF), has sponsored much of the remarkable policy progress in New England. When asked why there wasn't more progress in New England high schools, he said it was a lack of well-defined goals — there was not a sense of urgency, particularly about accelerating the progress of previously underserved students. Donohue thinks breakthrough progress will be made when we face structural racism more directly and honestly.[17]

Lack of definition of work-ready skills.
There is growing interest in social and emotional learning, much of which NGLC calls habits of success, but no shared definitions or measures. Aspen Institute's National Commission will make some progress on this front in 2018.

2. Transition challenges:

All of the issues associated with moving from the transition from tracking time to demonstrating learning are complex. The inertia of the old system — and everyone's experience with it — is challenging to overcome.

Difficult transitions to standards-based grading.
Replacing traditional letter grades with standards-based rubrics and requiring mastery rather than just accumulating points are key changes in practice and communication.

Moving from a culture of success vs. failure to a culture of revision.
Rather than a failing grade, competency-based schools tell students they have not yet achieved mastery. They create more time and support for

more learning. When work doesn't meet standards, they ask students to revise it. Competency-based schools often engage community members to help provide feedback.

Adoption of new roles and development of new capabilities for all teachers.
One of the biggest issues to tackle, and one of the best levers, is building professional capacity amongst teachers, virtually all of whom have grown up in and were trained through a traditional, age-based model.

Limited supports.
For struggling students to stay on track, they need real-time academic and social supports. Equitable competency-based education requires more time, innovative teaching, and learning strategies and support for students that need help; and that takes weighted funding (i.e., school budgets that reflect the challenges that enrolled students bring to school) and flexible funding.

Inadequate teacher preparation and professional learning.
Some teacher preparation programs have begun to incorporate personalized learning, but few are strong on competency-based learning progressions. Because competency-based learning models remain idiosyncratic, generic preparation is of limited value (i.e., more preparation needs to be model specific).

Pressure to retain privilege.
Parents of students who have been successful within the current system often view school's "job to be done" as preparation for selective universities; and anything that appears to erode this priority — such as abandoning honors classes, traditional grading, and class rank — is fiercely opposed.

3. Tools and resources:

Learning platforms and gradebooks for tracking mastery are inadequate. There are few instructional resources with aligned assessments.

Few platforms support dynamic learning.
Most learning management systems are built for whole group instruction to age cohorts. They lack the content management, assessment, mastery tracking, and dynamic scheduling needed to manage a CBE environment.

Few quality curriculum materials.
While there are more instructional materials that claim to be standards-aligned, there are few designed specifically to support competency-based learning progressions and learning outside of age bands. Much of mastery-focused curriculum is

currently home-grown. This is one of the areas where many people interviewed for this report stated a challenge. It is surprising how few options there are and how little progress that has been made to date.

4. Technical challenges:

The range of systems, data, and infrastructure used with CBE leads to numerous technical challenges to be addressed.

Lack of a common student record.
Each state will need to define a common electronic student record. More broadly, a learner profile will be relatively fluid, with lots of opportunities to customize.

Limited interoperability.
There are issues around access, transfer, and security of data. It is very difficult to combine formative feedback from different sources. In addition to being a psychometric and technical problem, this is a business model challenge — most traditional vendors make money selling item-level data and don't want to share it.

Inability to combine formative assessment from multiple sources.
Many U.S. schools benefit from more information from many sources of formative assessment, often embedded in digital learning experiences, but have no way to combine the information from multiple sources in ways that are useful for driving instructional improvement or managing student progress. The solution probably involves tagging content and assessment data (the way Houston requires partners to use Thin CC - Thin Common Cartridge). However, "tagging has to be considered carefully," says Dan Ingvarson who built the tagging scheme for Australia but has also seen several generations of tagging go down the drain with the introduction of new standards.[18]

5. Reporting:

Post-secondary reporting for college entrance and legislative demands on grouping students are a challenge to full implementation of CBE. Challenges include:

Higher education reliance on traditional measures.
Universities still rely heavily on standardized test results, grade point averages, and course-taking patterns as signals of likely post-secondary success.

No common competency transcripts.
For universities to begin recognizing competency-based transcripts, there will need to be a common format with the ability to verify skill assertions.

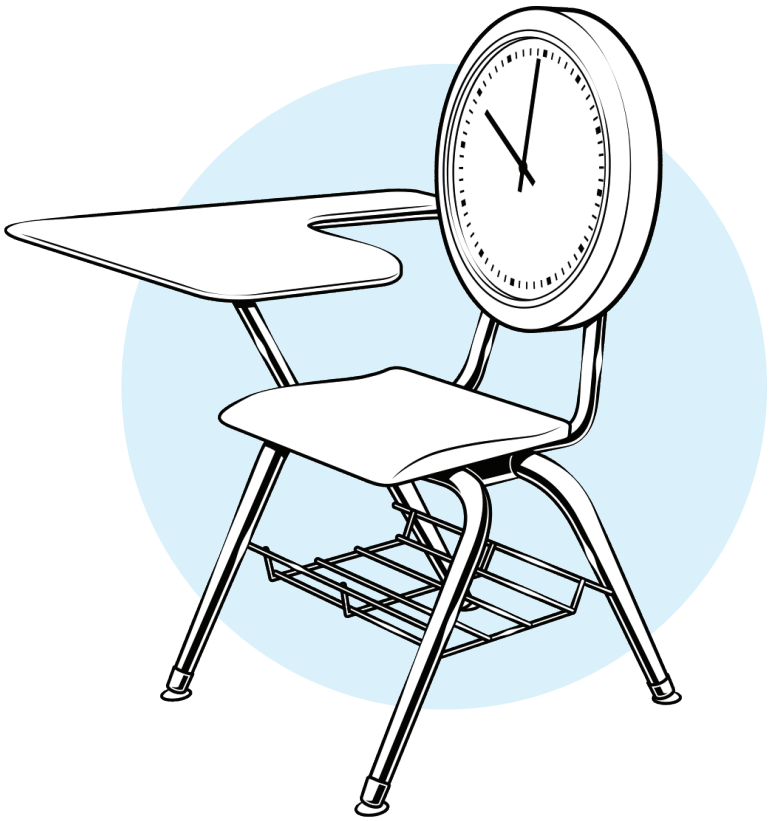
NCAA still pushes seat time.
David Haglund, Pleasanton Unified School District superintendent, said, "The biggest barriers are at the high school level and relate to NCAA and the university entrance requirements. The NCAA, for example, still wants to see gradebooks and syllabi that show the number of days and/or hours of seat time and a teacher grade"[19] (see this iNACOL webinar for more).

6. Accountability:

Current accountability systems are a challenge for CBE.

Accountability systems reinforce grade levels.
Federal accountability legislation provides more flexibility for competency education but still reinforces grade-level grouping and testing.

The biggest barrier may be that there are so few comprehensive, highly effective competency-based learning models.



Design Choices for Competency-Based Education

The move to competency-based learning models raises serious practical and philosophical questions. This section discusses some of the major issues influencing the CBE landscape and the implications for the design choices ahead.

Personalized and competency-based learning involve intentional design choices about experiences and environments that stand in contrast to traditional education on many fronts.

These design choices come under the broader context of school design. As Carnegie Corporation's Opportunity by Design implored, "We must seize this opportunity to redesign schools to enable personalized learning. This means fundamentally reshaping the use of human capacity, technology, time, and money, to provide both recuperative and accelerative opportunities for all students." [20]

The 10 principles of a high-performing secondary school outlined in Opportunity by Design include several principles that directly point to a competency-based approach; for example, prioritizing mastery, empowering and supporting students, and personalizing learning.

For purposes of this report, it is useful to identify three categories of overarching design choices that schools must make related to a competency-based approach: targets and competencies, learning processes, and grading processes.

Targets & competencies

Setting learning goals is the first and most important component of a competency-based system. If learning is to replace time as the core architecture of the system, then getting standards and assessments right is key. As the fight over the Common Core indicated, getting this right (pedagogically, politically, and technically) is enormously difficult.

In particular, assessing and tracking sub-skills is complicated. In a Common Core Toolkit, standards authors warned that "fragmenting the Standards into individual standards, or individual bits of standards, erases all these relationships and produces a sum of parts that is decidedly less than the whole." [21] In other words, they worried about their rich standards being turned into competency checklists.

FIELD OF LEARNING

The broader, deeper learning experience matches higher order thinking with more authentic practice

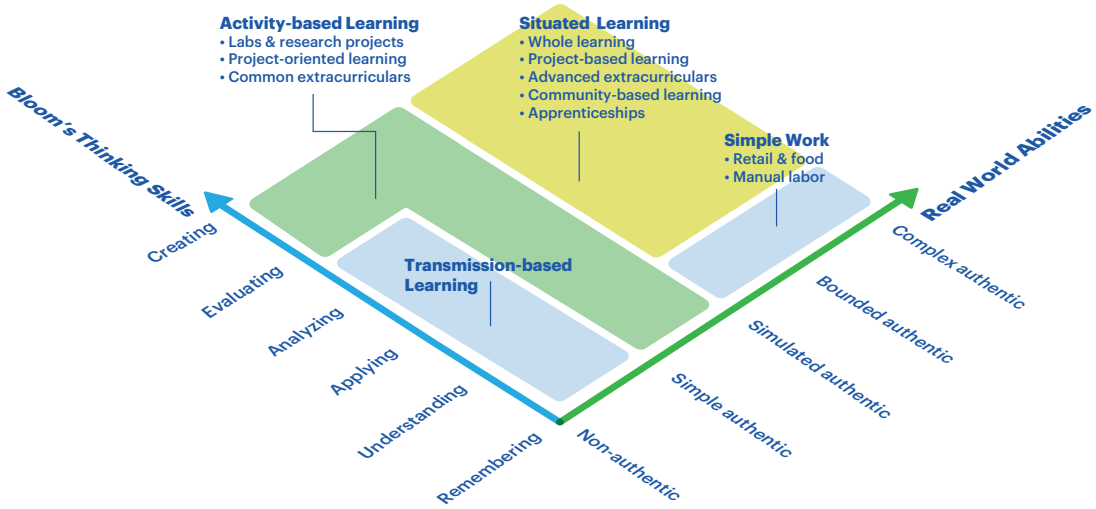


Image source: Adapted from Visual Summary of the MyWays Student Success Series. NGLC.

Author of the math standards, Jason Zimba, proposed a wiring diagram that reflects sub-skill clusters and relationships. Jen Medbery, founder and CEO of Kickboard, said it may be necessary to keep the sets of subskills distinct and allow gradebook users to build rules that group sub-skills.[22] Districts and networks could choose from a couple different credentialing or badging schemes linked to skill clusters. See also The Art and Science of Designing Competencies by curator Chris Sturgis.

If simply tracking a checklist of skills won't cut it, solutions will need to include micro-standard tagging grouped into skill clusters — a two- or three-layer hierarchy supporting the ability to combine fine grain and broader performance assessments. As Medbery said, a couple of different options and the ability to customize would be helpful.

To boost student engagement and simplify stakeholder reporting, the solutions should be, as Michael Fullan suggests, "irresistibly engaging" for students and "elegantly efficient" for teachers.[23] Students should be able to log into a mobile application and quickly understand what they need to learn and options for demonstrating mastery. Teachers should be able to efficiently monitor progress, benefit from informed recommendations and dynamic scheduling, and pinpoint assistance for struggling students.

NGLC's MyWays competencies aim to address the tension outlined by Fullan as they require an integration of thinking skills and real-world abilities. NGLC posed the question, "How do we create learning experiences that foster new social skills, the tolerance of ambiguity, entrepreneurism, or the ability to identify opportunities?" The Field of Learning map represents a traditional student experience heavy with transmission-based instruction with some labs and research projects focused on higher-order thinking skills, a smattering of more authentic extracurricular activities, and maybe some after-school work.

Work in traditional schools is along the left axis separate from the real and more complex settings that would promote durable and transferable learning. Dynamic competency-based models value situated (or place-based) learning whereas

higher-order thinking skills are engaged within real-world settings that are either bounded (within a controlled setting) or complex (unbounded).

It may go without saying that knowledge and skill maps will vary depending on where the approach lands on the constructivist-reductionist spectrum.

Learning process

In addition to how learning outcomes are defined, early competency-based learning models differ on many design variables. To illustrate differences, we analyzed four types of schools on five dimensions. The four types below represent early movers in competency-based education:

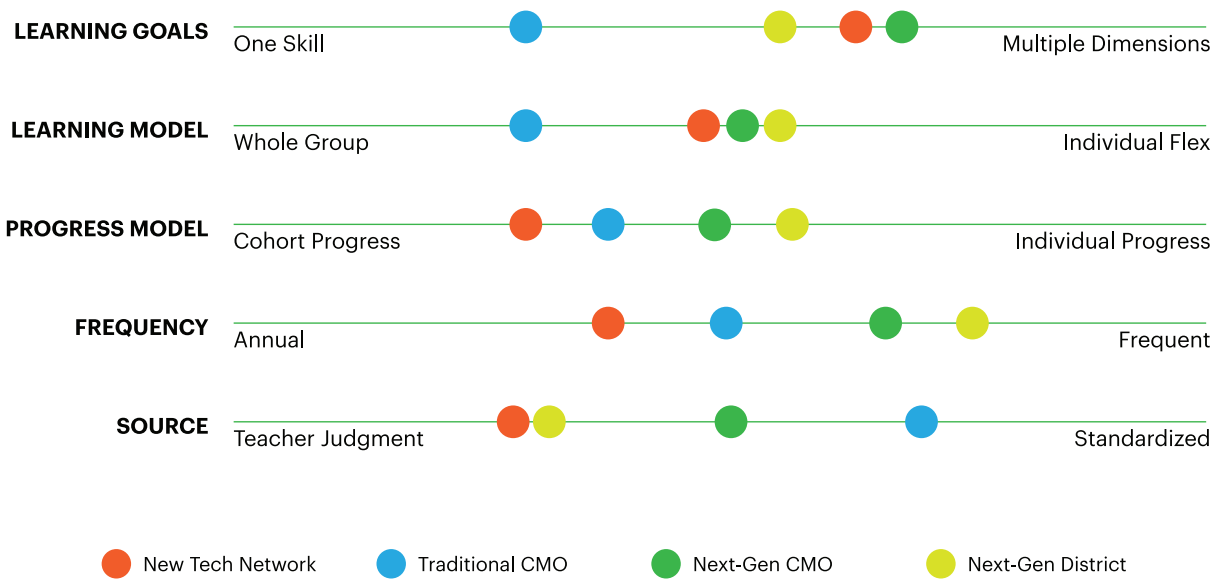
- New Tech Network is representative of the 10 Deeper Learning networks sponsored by the Hewlett Foundation (and also those supported by other organizations).
- Traditional charter management organizations (CMOs, such as IDEA, KIPP, Uncommon, and Yes) were known as "no excuses" models 10 years ago, but have all adopted elements of personalized learning.
- Next-generation CMOs (such as Brooklyn LAB and Thrive) adopted broader aims, incorporating more PBL and sophisticated personalization strategies.
- School districts recognized as leaders in competency-based education (such as Lindsay, d51, RSU2) have built inclusive cultures, which rely on teacher judgments to score authentic performance tasks.

In the following chart, each of the five design choices is shown as a continuum with the four school types arrayed along it. Clearly, there are substantial differences, even among these leading schools and school models (it is worth noting that this graphic is intended primarily for visualization, and does not reflect all members of each grouping).

Learning goals:

Traditional schools focus on core academic subjects and knowledge acquisition. Next-generation schools go further to promote deeper understanding in a context of broader aims. They often do so through extended challenges, team-based projects, and application of learning — all with an emphasis on

LEARNING PROCESS DESIGN CHOICES



the role of social and emotional learning in their progress model.

Learning model:
Whole group instruction predominates traditional schools. Next-generation models use a mixture of individual work, team projects, skill groups, and heterogeneous advisories in multi-age communities.

Progress model:
In traditional schools, students progress as a cohort on an annual basis. In fully competency -based models, learners progress as they demonstrate mastery. Next-generation designs use a dynamic mixture of learning and grouping strategies to promote deep learning and collaboration; most students progress in groups, but individual students have expanded access to supports and opportunities.

Frequency of assessment:
Traditional schools rely on finals, or end-of-course exams. Deeper learning networks rely heavily on end-of-year exhibitions. Fully competency-based schools use assessments continuously and make frequent progress judgments.

Source:
Traditional schools and many deeper learning networks rely heavily on teacher judgments. The "no-excuses" charter networks rely on external assessments. Next-generation models combine automated formative assessments with teacher observations for frequent mastery judgments.

STANDARDS-BASED GRADING

After designing learning targets and experiences, the type of feedback students receive may be the most important set of design decisions. Standards-based grading involves numerous design and implementation choices — all potential barriers to progress.

"When there are any negative reactions [to districts advancing competency education], they are in response to new grading practices, usually referred to as standards-based grading," observed Chris Sturgis, CompetencyWorks co-founder. [24]

Problems arise "when districts use grading as the entry point (which puts all the focus on the grading and not on why competency education is valuable) or they've put some of the pieces of standards-based grading in place but not the entire framework necessary to make it more trustworthy than traditional grading," added Sturgis.

Brooklyn Lab Charter School experienced the difficulty of leading with grading during the school's first year of operation. Co-founder Erin Mote stated, "We epically failed in our first year by rolling out a competency-based report card without talking to parents, and they were incredibly frustrated and even angry about the change — some were vocal about it. We called an all-school town hall the next week to both explain and to provide a traditional report card alongside a more competency-based one."[25]

Because grading and progress reporting are student- and parent-facing, they are the most externally visible design components. They change the form of the answer to the question every parent asks: "How is my son/daughter doing?" When the answer is a bunch of numbers associated with a set of standards rather than letter grades by subject, parents are often confused by, and may question, the new system.

The chart on the next page shows the difference between traditional and standards-based grading.

To avoid parent and teacher revolt when implementing standards-based grading, districts and networks must make the case for change: quality preparation, personalized learning, equity, and learner agency. Implementation should feel intuitive for students and parents and well supported for teachers; if it's confusing and technically challenging, it won't be well received.

Schools using standards-based grading and competency-based progressions should have a set of agreements about the use of formative assessment: some items simply inform learning; others are combined into mastery judgments using a weighting system, trailing average, or just the most recent item.

In practice, schools that claim to be competency-based showed little difference in assessment practices, according to a Nellie Mae-sponsored comparison with traditional schools. The 10 competency-based schools in this comparison did, however:

- Have higher clarity on learning targets,
- Use learning plans and technology to personalize learning,
- Give students who need it more time and support, and
- Provide opportunities for students to make some of their own decisions about learning.[26]

Rather than being an accurate comparison of CBE and traditional schools, the survey indicates the fuzziness of early implementation and a lack of clarity about language and practices on the basics like grading.

Some districts make the distinction between competency-based grading and standards-based grading, suggesting that the former is more about the application of organizing principles and meeting students where they are.[27]

Traditional Grading

- Based on assessments (quizzes, tests, homework). One grade per assessment.
- Assessments based on percentages, criteria may be unclear.
- Include every score regardless of when collected, then average the record.

Standards-Based Grading

- Based on learning goals and performance standards. One grade per learning goal.
- Standards are criteria for proficiency and provided ahead of time.
- Emphasize the most recent evidence of learning.

Source: Adapted from What is the Difference between Standards-Based Grading (or Reporting) and Competency-Based Education? CompetencyWorks.

3

Competency-Based Education Landscape

The future of CBE will be built on the work innovative schools and organizations are doing today. What are the major features of the current landscape? Whose work is leading the way?

Our scan of the CBE landscape revealed five key areas where important changes are happening: model schools and networks, learning tools, students supports, teacher development, and policy. This section describes our major observations in each area.

Model Schools & Networks

With one or two students at each grade level, the one-room schoolhouses that dotted the American landscape a hundred years ago had elements of competency-based learning. The modern and frequently cited example is Chugach School District, a network of tiny schools serving remote native villages in southern Alaska. Since Chugach developed as an example twenty years ago, hundreds of schools and a handful of small school districts have emerged as additional early examples.

A few examples of schools and districts leading the way in CBE are shown below, and a longer list can be found in the appendix of this report. Neither list is intended to be comprehensive, but more representative.

MC2 Charter School

An outstanding example of a competency-based, progressive model for learning, MC2 can be described as learner-centered, knowledge-centered, asswessment-centered, and community centered. Their advisors co-learn with students, and assessments are used to better understand learners. The leadership role helps create space and support for learners to solve their own problems. With two campuses in New Hampshire, MC2 has served as a real-world example of a powerful learning environment for more than 10 years.

Lindsay Unified School District

Frequently held up as the best district example of competency-based education, Lindsay Unified in California's Central Valley has been working toward a vision of student-centered and competency-based learning for more than a decade. District leaders stress the value of stakeholder buy-in to the vision, the centrality of student agency, and a shared culture built around common practices and language. Other leading districts include Westminster and Mesa County in Colorado, RSU2 in Maine, and Sanborn in New Hampshire.

Measuring Progress

It is important to note that some of these early adopters of CBE recognize they are working to close gaps. Deputy Superintendent Lana Brown of Lindsay acknowledges that state test scores, particularly for minority populations are below where they want them to be. She points out that they are working hard to close these gaps, and at the same time, are committed to "teaching students where they are for the best long-term success" rather than artificially teaching to the test. She points to growth scores in reading, graduation rates, and other metrics that demonstrate forward progress. Regardless, it is imperative that work is done around CBE implementation to better understand and hold up examples of where gaps are being closed quickly.[28]

Purdue Polytechnic

In its second year of operation, under the leadership of Principal Shatoya Ward and Head of School Scott Bess, Purdue Polytechnic students learn problem solving and critical thinking through real-world design challenges. A design-thinking process that includes analysis and reflection is used to emphasize core academic concepts. Instead of following a traditional schedule, teachers and students work together to outline time for individual learning, group instruction, and project-based works. Students become responsible to identify gaps in their own knowledge and receive support where and when they need it.[29]

Deeper Learning Networks

The Hewlett-supported deeper learning networks — including Asia Society, EL Education, High Tech High, New Tech Network, and Big Picture Learning — engage students in PBL, use rubric-based assessments, and require demonstrations of learning. While they reflect many aspects of competency-based education, student progress is largely cohort based. This is out of tradition and a commitment to maximizing peer learning in diverse schools.

In addition to schools and school networks, there are numerous research, advocacy, and philanthropic organizations making a difference in K-12 CBE. Frontrunners on the thought leadership side include iNACOL, Great Schools Partnership, Jobs for the Future (JFF), EDUCAUSE, NGLC, KnowledgeWorks, CASEL, and more (see appendices for more information on CBE advocacy organizations, philanthropy organizations, and schools, districts, networks and states).

IMPACT OPPORTUNITIES

MODEL SCHOOLS & NETWORKS:

Enhance and scale competency-based networks.

Scaling high-performing school networks is a low-risk, high-impact strategy, but most networks are only marginally competency-based. New support could focus on learning model updates as well as scaling.

Develop schools that are models for competency-based practice.

A well-designed new school grant program is a low-risk strategy to produce high-quality competency-based school models. But new schools are slow and expensive to develop. Most have resulted in incremental advances in CBE rather than breakthrough frameworks. New microschool strategies could speed development, reduce risk, and increase innovation.

Elevate visibility of exemplar school practices.

Disseminating information about schools effectively taking a CBE approach is critical.

Update learning platforms for competency-based learning.

Most learning platforms were designed for grade-level age cohorts, not personalized and competency-based learning. Updates to widely used lightweight platforms (like Google Classroom or Edmodo) would help scale next-generation platforms to move the market toward a focus on competency. Such efforts could be complemented by supporting new learning models with well-supported teachers.

Competency Learning Processes & Tools

A plethora of tools related to CBE are available. For the purposes of this report, they have been grouped into the following categories: learning platforms, curriculum resources, and assessment tools (see the appendix of this report for an expanded listing of tools within each category).

Prior to discussing these competency tools, it is important to note that they best achieve learning goals when integrated and that there are numerous related education technology challenges including:

Availability
Schools are hungry for toolsets to enable all aspects of CBE. For example, XQ Super School Purdue Polytechnic has stated, "If you can't help us with that, then we've got a big hill to climb." Because they are designed for grade-level cohort school models, technology tools are a barrier to developing and adopting competency-based learning models.

Weak incentives
Free tools from Google and Microsoft accelerated the shift to digital learning, but may have dampened investment in next-generation tools. Until business models change, there will not be the data-tracking system or interoperability that is needed.

Integration
Currently, there are many single-purpose systems (LMSs, learning resources, gradebooks, SISs, and reporting systems). Going forward, we should get to the point where platforms can do all of the following: individualized playlists, creating and supporting dynamic skill groups, and support of scored performance tasks.

Throughout this section, we will describe supports available for each of the components of the learning process, along with potential impact areas. To be most effective, assessment and learning tasks are integrated, aligned, and responsive. Thus, it is challenging to draw a clear line amongst the tools (many systems simultaneously assess, instruct, and track).

For the purpose of this report, we start with a broad overview of learning management systems (LMSs) systems and how they can organize, assess, and support learning. We then move to curriculum, assessment, and reporting tools.

EXPERT INSIGHT

Update learning platforms for competency-based learning.

Washington Leadership Academy (WLA) has used Odell (a CBE curriculum), CommonLit, and Canvas for an LMS, and has still needed to spend time on the more granular creation of processes — taking curriculum and making it work for their particular students and systems.

Administrators at WLA are committed to sharing as much as possible about their learnings so that one day, all kids can have an amazing and robust competency-based system.

Below is a snapshot of the steps WLA has taken to ensure CBE is implemented across their learning process. Worth noting are the many and different technology systems used.

- Read available units (Odell, CommonLit, or supplemental sources).
- Annotate the text (Google Docs).
- Create unit plans (Google Sheets).
- Make specific unit plans with individual assignments (Google Docs).
- Write those assignments, ideally tying them to standards (Canvas).
- Conference with students as they work (F2F, Canvas, Odell, NWEA, online).
- Edit, grade, and enter student work bi-weekly (Google Sheets).
- Regrade student work (Google Sheets).
- Enter grades (Canvas).

Ideally, standards or competencies would appear in Canvas, but the assignments do not automatically have associated standards because creating them is a manual process for staff. [31]

Learning Platforms

With inexpensive devices and high-quality, often free content, the shift from predominantly print to predominantly digital learning has accelerated. Most schools use (or soon will use) learning platforms to make and manage learning tasks. All but a few recent learning platforms were not designed for personalized and competency-based learning, but rather for a traditional system with whole group instruction and grade-level cohorts.

Including the corporate and training world, there are hundreds of learning platforms on the market. Free platforms such as Edmodo, Google Classroom, and Microsoft Classroom have become very popular. They are simple and intuitive, but they currently lack the management and monitoring tools needed in a competency-based environment.

As noted by Carmel Martin, Senior Advisor at Emerson Collective, "Student databases are not designed to provide teachers with the information they need to know about where students are with respect to specific competencies in real time. Teachers often know that their students are below or above the grade-level content but don't have the information broken down against a set of standards or competencies outside the current grade level. This has been identified by experts in the field as a major obstacle for bringing these programs to scale."[30]

One example of a competency design platform is Empower Learning, which has been used by Lindsay Unified School District and a few other leading districts. Epiphany Learning is another platform, used by a few leading districts, that supports personalized and competency-based learning.

Motivis Learning, developed by Southern New Hampshire University, is another example of a platform built for a competency-based environment. It is used by Teton Science Schools, a leader in place-based education (PBE) that is launching a rural microschool network.

Agilix Buzz is a white-labeled platform (e.g., Pearson GradPoint) used with project-based adaptations by the New Tech Network.

IMPACT OPPORTUNITIES

A Case Study on Pulling It All Together.

Most learning platforms were designed for grade-level age cohorts, not personalized and competency-based learning. Updates to widely used lightweight platforms (like Google Classroom or Edmodo) would help scale next-generation platforms to move the market toward a focus on competency. Such efforts could be complemented by supporting new learning models with well-supported teachers.

Cortex is a highly configurable personalized learning platform co-constructed with XQ School Brooklyn LAB by nonprofit InnovateEdu.

Summit Learning was engineered by the Chan Zuckerberg Initiative (CZI), and is used by Summit Public Schools and hundreds of teacher teams that have applied to use it free of charge. This promising platform seeks to solve the challenge of providing real-time information broken down by standard. See also XQ school Summit Shasta.

There are two adaptive learning platforms that support competency-based career education: RealizeIt (review here) and Fishtree (see review, K-12 case study podcast, and learning platforms blog bundle).

AltSchool is a new personalized elementary platform that has raised more than $140 million but only has a few pilot schools to date.

Canvas is the fastest growing LMS in HigherEd with an equal number of K-12 users. It has some personalized learning features but doesn't support competency-based learning.

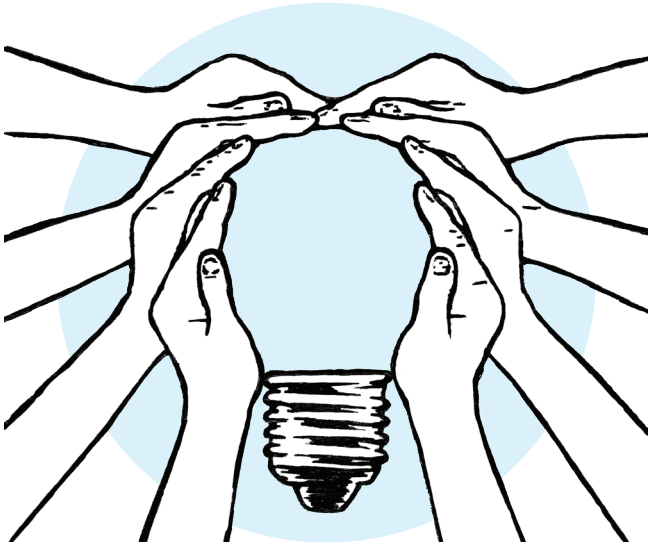
When owned by Pearson, PowerSchool was the leading student information system with a standards-based gradebook. When Vista Equity Partners purchased it in 2015, they began adding features including Haiku, a HigherEd LMS.

Curriculum Resources

Over time, most learning content has been developed for whole group delivery in a traditional age-based model. The emphasis has typically been on covering content rather than eliciting evidence of mastery through quality assessment (assessment is further discussed in a subsequent section of this report).

To meet needs in a competency-based environment, learning content and experiences need to be modified to support competency progressions with embedded assessments and extra supports. In particular:

- Learning experiences need to reflect model design decisions and the mission or philosophy of the school. The spirit of CBE is to take learning beyond rote memorization to deep understanding and the transference of knowledge.
- Learning materials and experiences need to be aligned to competencies, objectives, and/or standards (and the manner in which they're being assessed).
- Customized supports and differentiated experiences need to be determined based on learning needs so that we close, rather than exacerbate, learning gaps.
- Personalization means meeting students where they are and differentiating supports.



- Further, good curriculum depends on expert facilitation by teachers that is informed by the best learning technologies. Many schools use an advisory system to ensure more kids have an individualized and dynamic set of learning experiences.

With the shift to digital, there has been an explosion of free and proprietary instructional material choices. Many districts and teachers are developing their own content. The idea of a school-board adopted curriculum has nearly vanished in the last 10 years, leaving schools and individual teachers to make resource decisions.

As stated earlier, lack of a coherent curriculum is a significant barrier in a CBE context, particularly with the explosion of available options (which requires ongoing mechanisms to determine quality). Even where necessary products exist, local procurement policies can be a barrier to bringing to scale access to high-quality products.[32]

Assessment expert Susan Brookhart noted the lack of "ready to go" instruction and assessment resources that reflect a competency-based approach.[33] While there is certainly a lack of ready-to-use competency-based materials, there are some examples to look to in the field that can be useful.

Content-specific curriculum is beginning to become available with a competency-based approach. For example, Odell Education has developed English Language Arts curricular units designed to provide "comprehensive instruction on a set of literacy proficiencies essential for college and career readiness." New Classrooms provides an adaptive math solution that utilizes content from a variety of vendors.

Examples of open-source competency-based curriculum resources include EL Education, English Language Arts (ELA), life science curriculum (only for K-5 and built for the EL network), and Open Up Resources, which offers standards-based open content for ELA and math. Both are designed primarily for whole group instruction.

What is the Actual Work Students Do?

As noted in the barriers section, one of the biggest gaps discovered in our research was the lack of clarity around instructional resources. Achieve leader Mike Cohen noted the often-wide gap between standards states have adopted and the curriculum as implemented in the classroom, often resulting in poorly aligned learner experiences and related supports.

In its work with educator teams across the country, Achieve regularly advises that they answer the following questions:

- How well aligned are the instructional materials to the learning goals?
- How well aligned is the work students are doing to the learning goals?
- Are the assessments being used, including examples of student work, actually designed to produce evidence that students are meeting those goals? [34]

What is the Quality of the Curriculum?

Elina Alayeva, Executive Director of Springpoint, noted that the biggest gap that concerns her with CBE is the lack of good quality, rigorous, high-school level curriculum. She notes, "To truly take a CBE approach, learning needs to advance at times and slow down at times based on the needs and strengths of individual students. Rigorous, engaging curriculum is needed to enable students to move at their own pace. It's much harder without a rich variety of scaffolded content for students to engage with." [35]

Khan Academy, also open-source, remains one of the most widely used resources for personalized (and self-driven) learning for students across grade bands. The platform consists of practice exercises, instructional videos, and a personalized learning dashboard which allows learners to progress at their own pace in and out of the classroom.

New Tech Network teachers share a large library of standards-aligned projects and can author their own complete with standards-based rubrics.

Teachers often also access content-curation sites, such as Gooru, for materials; again, the gap is in the coherence.

Because competency education involves students moving at different rates in different subjects, it is impractical for each teacher to develop instructional materials (i.e., it would require large grade spans of content in every subject). It also requires a consistent approach to assessment and feedback. This suggests that instructional materials should be selected by school teams, districts, or networks of schools.

IMPACT OPPORTUNITIES

Design competency-based curriculum that promotes deeper learning and transferability.

Most learning content was developed for whole group delivery. Evolving curricula could be modified to support competency progressions with embedded assessments and extra supports.

Assessment Platforms

After decades of emphasis on high stakes year-end assessments, educators are seeking to balance out the process of assessing learning by including both formative (formal and informal) and summative assessments and increasing the use of authentic assessments, through methods such as project-based learning, to encourage broader aims (i.e., social and emotional learning, growth mindset).

As with all aspects of the learning process, the assessment approach should flow from the goals and learning model. For example, assessment can be internal or external to the learning process (or a combination thereof). It can be primarily formative, or heavy on the summative. Further, who or what process determines mastery; for example, is it an automated process, or teacher observations, or a combination?

Overall growth in reading and math can be assessed with quick pretests and posttests, using adaptive assessments such as the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) or Curriculum Associates' i-Ready.

At the classroom level, MasteryConnect allows teachers to pick or build assessments. It has a mastery tracker, but it doesn't incorporate feedback from other sources (e.g., an adaptive quiz or teacher-scored tasks).

To capture a more holistic view of student work, portfolios can include multiple forms of evidence that demonstrate deeper learning skills (including both fundamental skills and fundamental knowledge)[36] but require well-calibrated mastery judgments and are difficult to scale. Portfolio platforms include FreshGrade, Bulb, Digication, and Pathbrite.

New Hampshire's Performance Assessment for Competency Education (PACE) is an example of a portfolio-based approach that relies heavily on local teacher training. The learning process has been described as authentic; yet there are significant challenges with reliability, validity, and scalability.

MasteryTrack is an example of a new standalone dashboard designed to enable students, teachers, and principals to monitor student learning progress. The specific learning objectives and binary definition of mastery make the approach very clear and easy to implement. CEO Scott Ellis distills (and simplifies) the process by seeking clarity around what he sees as the critical questions that make mastery-based learning possible: "What are the specific, clear, demonstrable learning objectives? What is the mastery threshold for each one? How does the student demonstrate mastery and how does the teacher assess mastery? And how is the data organized and displayed?" [37]

From a reporting standpoint, a core challenge is that there are currently not adequate mechanisms to combine multiple assessments to guide learning and to make mastery judgments for both in and out-of-school learning. Most school networks build a simplified approach to this problem, agreeing on a handful of measures and methods of combining or weighting these measures. Schools often supplement weak gradebooks with spreadsheets or new mastery-based gradebooks like Jump Rope. Too often, valuable out-of-school learning is either not accounted for or not integrated. In addition to the challenge of integrating such data, it will also be important to ensure quality learning in non-traditional contexts.

EXPERT INSIGHT

Pulling Together Assessment Data at Purdue Polytechnic High School

Head of School Scott Bess noted the challenges of disparate assessment systems. "At Purdue Polytechnic, they use the PSAT suite of test results to get a sense of where students are holistically, various online products for math, and teacher-developed lessons for other contextual and project-focused knowledge. A challenge is tying together what has been learned about each student from multiple sources.[38]

IMPACT OPPORTUNITIES

Develop unified assessment platforms.

With low interoperability, mastery determinations often rely on one-dimensional external assessments. Portfolios help capture student work but require well-calibrated mastery judgments. Combining multiple assessments into a unified badge platform would allow networks of schools to make common mastery judgments. Adding automated scoring would improve efficiency and calibration.

Transcripts

High school transcripts that summarize courses taken and grades received are typically sent to colleges in paper or PDF format. There is no standard for what is covered in courses or how learning is graded. It is, however, the norm for college application and admissions officers to make judgments based on the sending high school (i.e., a 3.9 GPA from one high school may be valued over the same grades from another school based on the performance of prior students from those schools).

To offer a solution to the problem, a group of independent schools formed the Mastery Transcript Consortium (MTC) to develop a common framework for communicating skills, knowledge, and habits of mind by presenting evidence. Piloted in 2018, the Mastery Transcript is organized around performance areas (rather than courses), mastery standards, and micro-credits (rather than grades) as defined by the crediting high school. While this work began with independent schools, it is expanding to include a pilot with public schools as well. In order to capture and communicate student accomplishments to colleges and employers, it will require that schools — or groups of schools — will still need to define graduation requirements and forms of evidence that represent competencies.

Learner Profiles

Sophisticated learning environments develop comprehensive learner profiles. With a commitment to privacy and access, these can be powerful tools. With thousands of online students at Kaplan, Bror Saxberg (now at CZI) was able to run dozens of A/B tests simultaneously on teaching and support strategies.[39] At Minerva University, CAO Stephen Kosslyn said they track hundreds of learning factors as students develop 97 habits of success and foundational concepts.[40]

In K-12, learner profiles are distributed information sources including a limited student record in a student information system, a gradebook with assignment scores, and spreadsheets that capture test scores. Most of the formative feedback, behavioral feedback, and work and service feedback — as well as college and career discussions — never make it into a learner profile.

Each state needs to define a common electronic student record. Every student ought to have access to his/her data in a machine-readable portable profile. Privacy, management, and access issues are obviously important.

IMPACT OPPORTUNITIES

Improve integration of transcripts, learner profiles, and scheduling tools.

There is plenty of room for technology developments and infrastructure to ensure that the tracking and reporting of credentials is a cohesive process.

Student Learning Supports

Schools must ensure that all students are known members of a community and receive both "wrap-around" and instructional supports.

Given broader learning aims — including transferability of knowledge and skill, student agency, critical thinking, and a host of social-emotional skills — student supports need to be better than ever. These include, but are not limited to:

Advisory

Some supports are "macro" in nature, such as the implementation of advisory systems or other structures that are student-centered by design. Most advisory systems include some form of 1:1 contact on a weekly (or sometimes daily) basis focused on goal setting, time management, learning priorities, and — in the case of a project-based environment — strategies for project completion. Most schools use advisory to personalize the secondary experience.

EXPERT INSIGHT

Known by Name, Strength, & Need

Rebecca Wolfe of Jobs for the Future notes that embedding a personalized approach (tailoring learning to students strengths, needs, and voice) is critical to the overall success of CBE. She notes, "I am excited to see the field taking seriously how to do CBE in a personalized, student-centered way that pays attention to equity concerns."[41] She cautions that, at the other extreme, one could meet the letter of the definition of CBE in a way that is cheap, clear, and easy — and miss the spirit of it, in which students engage in a personal way that helps close opportunity gaps."

SEL

Advisory or homeroom structures can also be used to teach SEL. Social and emotional learning is now front and center in American education. "The good news is that it's not a fad," said CASEL chair Tim Shriver. "The bad news is that there is not a supply of high-quality, evidence-based training, curricula, or assessment tools."[42] CASEL suggests providing frequent feedback to students in areas of social and emotional learning, but avoiding incorporating immature measures into old accountability systems.[43]

College, Career, & Life Readiness

Naviance is still the most prominent college and career planning tool (but could be a lot more student-centric). The College Board offers Big Future resources that can serve as content for advisory. (See recent Getting Smart case study on Personalizing Readiness.) MyWays from NGLC is a comprehensive outcome framework shared by 130 new schools. Like the Summit Public Schools outcomes, MyWays includes Habits of Success and Wayfinding (both build on the work of David Conley). The 4Cs, advocated for by the Partnership for 21st Century Skills and EdLeader21, are well-represented (see reports on all four outcome categories).

Learning Supports

Next-generation learning platforms (discussed above) that emphasize personalization help identify students and groups that need extra time and attention. It is critical that there are systems in place to identify students who need additional support in order to develop and demonstrate competency. Personalized differentiation of instruction, identification of need, and next steps to ensure success are all critical and certainly worthy of significant attention.

Teacher Preparation & Development

Meeting students where they are not only requires a shift in their learning environment; it also requires teachers being prepared to make the instructional movement toward learner-centered, mastery-based environments. According to the article "Threshold Concept," one of the biggest issues to tackle is building teacher professional judgment. It is suggested that "building professional capacity in the educator workforce is the best thing we can do in the long term to ensure success for every student." [44]

There are a couple examples of higher education taking a competency-based approach to their pre-service programs: Western Governors University and Southern New Hampshire University. An example of a competency-based national graduate school is Relay GSE (developed by Uncommon Schools, KIPP, and Achievement First).

EXPERT INSIGHT

Differentiating & Personalizing Instruction

According to Chris Sturgis at CompetencyWorks, "Personalization and competency go hand-in-hand. Without competency education, personalization may result in variable achievement. Without personalization it is unlikely that all students will reach outcomes."[45]

IMPACT OPPORTUNITIES

STUDENT SUPPORTS:

Promote an integrated approach to academic, social, and emotional development.

Market momentum is ahead of expert agreement on what to call work-ready skills and how to measure them. There are several SEL frameworks that are working on integration with academic development and development of assessments.

Provide exemplar advisory systems.

With the dynamic scheduling of individual progress models, advisory systems provide a central place to teach social and emotional skills, monitor progress, and connect young people to support systems. A comprehensive advisory platform would be helpful to many schools, but creating the culture, structure, and teacher supports is the harder work. Implementation is very difficult and requires training not typically part of teacher preparation. Advisory systems support well-developed competency-based learning models.

Advance advisory implementation for college, career, and life readiness.

An advisory structure is a key aspect of secondary education particularly when students are moving at their own pace in several outcome areas. Implementation is very difficult and requires training not typically part of teacher preparation.

There are some limitations regarding preparation. For the foreseeable future, CBE will remain idiosyncratic so generic preparation will have limited value; the clinical practice portion of preparation will need to be model specific.

Micro-credentials give teachers a degree of voice and choice in their professional learning by allowing them to pick skills important to their own learning plan and to demonstrate growth in ways relevant to their classroom.

Digital Promise approves and Bloomboard hosts several hundred teacher micro-credentials, most in skill sequences. Current offerings are somewhat limited, and there is yet to be developed a comprehensive skill map to guide development. MIT also offers teacher micro-credentials.

Two Teachers' Perspective on CBE

"Competency-based education is best-practice teaching. It is dependent on the teacher's ability to intentionally meet the needs of the individual student. Recognizing competency-based learning as what is best for students is a paradigm shift for most educators. While it can be challenging and overwhelming to think logistically about how to be effective in meeting each child's learning modalities, pace, and needs, it is truly the most efficient way to ensure that every child is getting the most out of their time in the classroom."

— Lauren Vann and John Paul Sellers [46]

IMPACT OPPORTUNITIES

TEACHER PREPARATION & DEVELOPMENT:

Develop educator leadership support campaigns.

Many school and district leaders want to pivot to a CBE approach, but don't know what to do or how to do it. Providing examples and tools will support widespread adoption.

Seek out technical assistance for school improvement.

Ensure a systemic approach to CBE through school improvement support.

Promote competency-based education teacher preparation and professional learning.

To fully embrace personalized and competency-based learning, teachers should experience it in preparation and in ongoing professional development. Giving people a place to start as we seek to support educators in the field of competency-based education is a set of educator competencies for personalized, learner-centered teaching that was developed by the Council of Chief State School Officers (CCSSO) and Jobs for the Future.

Support a teacher micro-credential system.

Micro-credentials for pre-service and veteran teachers offer a way for educators to demonstrate the knowledge they've obtained through various pathways.

Policy & Advocacy

Because CBE is a fundamentally different way to frame learning, it requires new policies that guide factors such as learning, assessment, funding, staffing, supports, schedules, and matriculation.

New England has led the country with policy changes and, while implementation results have not yet realized all potential benefits, we believe there are lessons that can be learned regarding change efforts.

There is a movement among states to consider CBE as it relates to flexibility within the time schedule, competency-based diplomas, assessments, and the like. There is much to learn from these states as they develop policies that actively promote CBE and remove obstacles to starting these initiatives and/or they support local competency-based innovation.

Many organizations have begun tracking state policy measures around the topic, and a Spring 2017 ExcelinEd report, Policy, Pilots and the Path to Competency-Based Education: A National Landscape (Achieve and iNACOL have also done scans), suggests that states are at different levels of maturity in this area. The ExcelinEd report outlined the findings of an examination of current legal and policy foundations related to competency-based education in K-12 systems in all 50 states and D.C. The excerpts below draw heavily from that report, which outlines main approaches, including flexibility from time-based systems and encouraging innovation. Additional state policy examples can be found in this appendix.

Flexibility from Time-Based Systems

Traditional systems which require seat time do not typically reflect how most students best learn: on their own learning paths, within their own timeframes. When systems move away from the requirements of seat time, educators are freed up to think about personalizing learning and not time constraints.

While most states still have seat-time requirements, many are moving toward flexibility when it comes to credit, advancement, and graduation policies. For example, New Hampshire abolished the Carnegie

Unit and awards credits diplomas based on demonstrations of competency rather than seat time. Many other states have not yet changed statewide policy, but they have created an option for districts to move away from time-based requirements. Michigan, for example, allows Local Education Agencies (LEAs) to apply for a waiver of the minimum seat-time requirements, while Oregon's credit options allow LEAs to offer credits based on demonstration of proficiency.

Competency-Based Diplomas

For decades most states have allowed alternative pathways to a diploma through GED programs. In recent years, a few states have taken up policies specifically for competency-based education diplomas while others have allowed credits earned through mastery to count toward local graduation requirements (which are defined by the LEA). Maine, for example, is transitioning to a proficiency-based diploma for all students, adopting a set of Guiding Principles to define cross-curricular skills for which each student must demonstrate proficiency for high school graduation. Vermont requires LEAs to have proficiency-based graduation requirements based on state standards, starting with the graduating class of 2020.

Acceptance of Competency-Based Diplomas and Credits by Higher Education

The challenges of college admissions are real and perceived (for example, many applicants assume that it's all about GPA and SAT when most selective colleges value broader development), as college admissions officers do need to understand the rigor of competency-based transcripts and how they compare to traditional diplomas and awards. Students and parents may also worry about participation in competency-based programs if they think the transcripts and credits could affect the application process. In addition, many scholarship programs and other programs may still be based on GPA or class rank and not accept the competency-based transcript. For example, the popular scholarship search engine Scholarships.com lists hundreds of scholarships that are available based solely upon minimum GPA.

Policy examples include the Utah requirement that institutes of higher education shall recognize and accept a diploma earned in a competency-based program in the enabling legislation for their Competency-Based Pilot Grants. The New England Secondary Schools Consortium (NESSC) — a collaboration of five states encouraging proficiency-based graduation and personalized learning pathways — secured a statement of support from 68 public and private higher education institutions which notes that "unequivocally, students with proficiency-based grades and transcripts will not be disadvantaged in any way" in the admissions process.

Anytime, Anywhere Learning

Anytime, anywhere learning means "students have equitable options to learn outside of the typical school schedule and away from the campus. Whether that means studying online, completing an internship over the summer, or taking advantage of some other out-of-school opportunity, they can receive credit for the knowledge and skills they master." [48]

EXPERT INSIGHT

New Hampshire Policy Reflections

Looking back at the journey to a proficiency-based approach in New Hampshire, Paul Leather (who served as Deputy Commissioner at New Hampshire's Department of Education prior to his current role a the National Center for Innovation in Education) reflected on the two highest leverage moves they made:

1. Defining credit as mastery (not the Carnegie Unit).

2. Establishing performance assessments, including building and assessing them at a local level.

Paul noted, "As we look at asynchronous mastery and students moving on as a system, all of the policy elements that support that become important; it becomes a process of knitting it all together."[47]

Good policy acknowledges that such learning exists by notating in student records and supporting LEA's as they look to expand these flexible learning opportunities. Louisiana's Course Access program is considered the most developed nationally with hundreds of online and face-to-face courses offered by state-approved providers using a flexible funding model. The Florida Virtual School is focused on "any path, any pace, any time, any place" learning with credits awarded based on individual student progression rather than time-based requirements.

State Assessment Systems that Support CBE

It will take time to develop assessments that not only reflect student-centered and competency-based learning approaches, but that also support and inform instructional practices. Aside from time, assessment redesign takes significant technical and financial investment, but we have several examples of how it can successfully be done.

Florida End-of-Course (EOC) Assessments, while not purely competency-based assessments, are an example of testing flexibility (also exercised in other states; for example, New York). The EOCs are administered for Biology, U.S. History, Civics, Algebra 1, Algebra 2, and Geometry and are aligned to state standards. Students may take the EOC assessments at five points throughout the year, which include multiple retake testing opportunities. The assessments are computer-based, though paper-based or other versions are available for students with disabilities who need accommodations. Students who do not complete the assessment by the end of the assessment time are permitted to continue working until the end of the school day.

New Hampshire's Performance Assessment for Competency Education (PACE) began under the state's Elementary and Secondary Education Act (ESEA) waiver. A small number of LEAs are voluntarily piloting the system, which replaces traditional standardized testing with performance-based assessment developed at the statewide level that is designed to support deeper learning, and that is integrated into students' day-to-day work. PACE was an inspiration for ESSA's Innovative Assessment and Accountability Demonstration Authority.

IMPACT OPPORTUNITIES

POLICY & ADVOCACY:

Advocate for regional and state policy.
State policy that drops seat-time requirements and adopts competency-based diplomas and policies will be key to realizing the benefits of personalized learning, though policymakers should be careful to have a well-thought out alternative (ideally with some guardrails in place) before making this transition. Lack of school and district progress suggests that reframing goals and reducing barriers are insufficient as change mechanisms.

Establish regional higher-ed consortiums.
College entrance requirements are often cited as a reason for traditional courses, credits, and tests. Regional working groups can help.

Promote a competency-based transcript.
High school staff and administration are concerned that a competency-based transcript will disadvantage students for college admissions. Development of new transcript models (e.g. MTC) can help.

Support development of innovative diploma networks.
A common competency transcript could serve as the user interface for networks of schools (even states) that share competency definitions. A few international schools have expressed interest in a proposed innovation diploma network that combines required experiences and microcredentials. U.S. schools would be required to meet state graduation requirements but may be able to get waivers for thoughtful proposals.

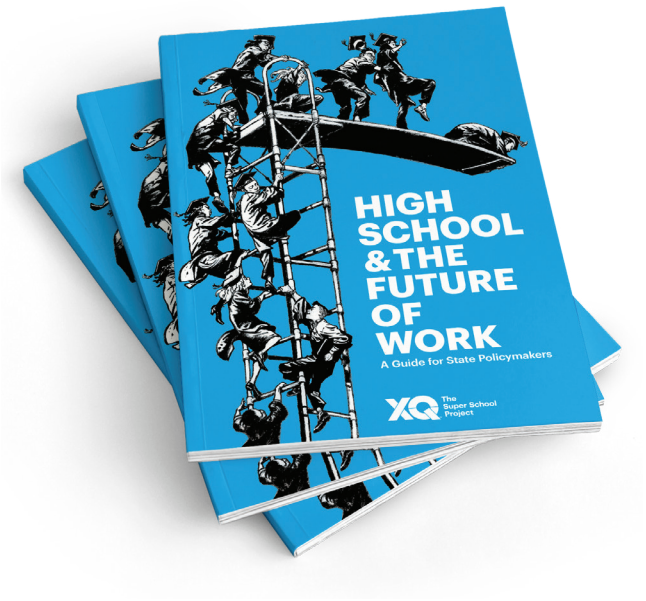
Adjust staffing and funding model.
Current staffing and funding models are based on the traditional, time-based model. Equitable CBE will require more time and supports for students that need help. A balance of weighted funding will be required.

Provide model board policies.
School district leadership teams and boards would benefit from support with competency-related policy, including assessment, grading, promotion, staffing, and funding. Sample board policies would help boards know what to do and in what order.

The shift to a personalized, competency-based approach requires more than a handful of strategic line-item policy changes. It also calls for policy that creates space for — and encourages — innovation.

Some states have launched pilot programs which encourage CBE incubation at the LEAs and/or school level, based upon state goals and priorities. Some states have tied pilots to competitive grant funding while others have identified sites based on legislation. Examples include Idaho, which created an initial cohort of incubators for mastery-based education in FY2017, and Ohio, which sponsored a CBE pilot with five sites receiving up to $200,000 each.

Other innovation programs or funds go beyond just CBE and allow LEAs and/or schools to apply for funding in one or more areas. The innovation opportunities are typically tied to state policy and priorities but are often quite broad. Colorado's Innovation Schools Act authorizes innovation zones and innovation schools. Georgia's Innovation Fund began as a part of Georgia's Race to the Top plan and provided grants to invest in local efforts "to plan, implement, and scale innovative education programs that advance student achievement" throughout the state.



EXPERT RESOURCE

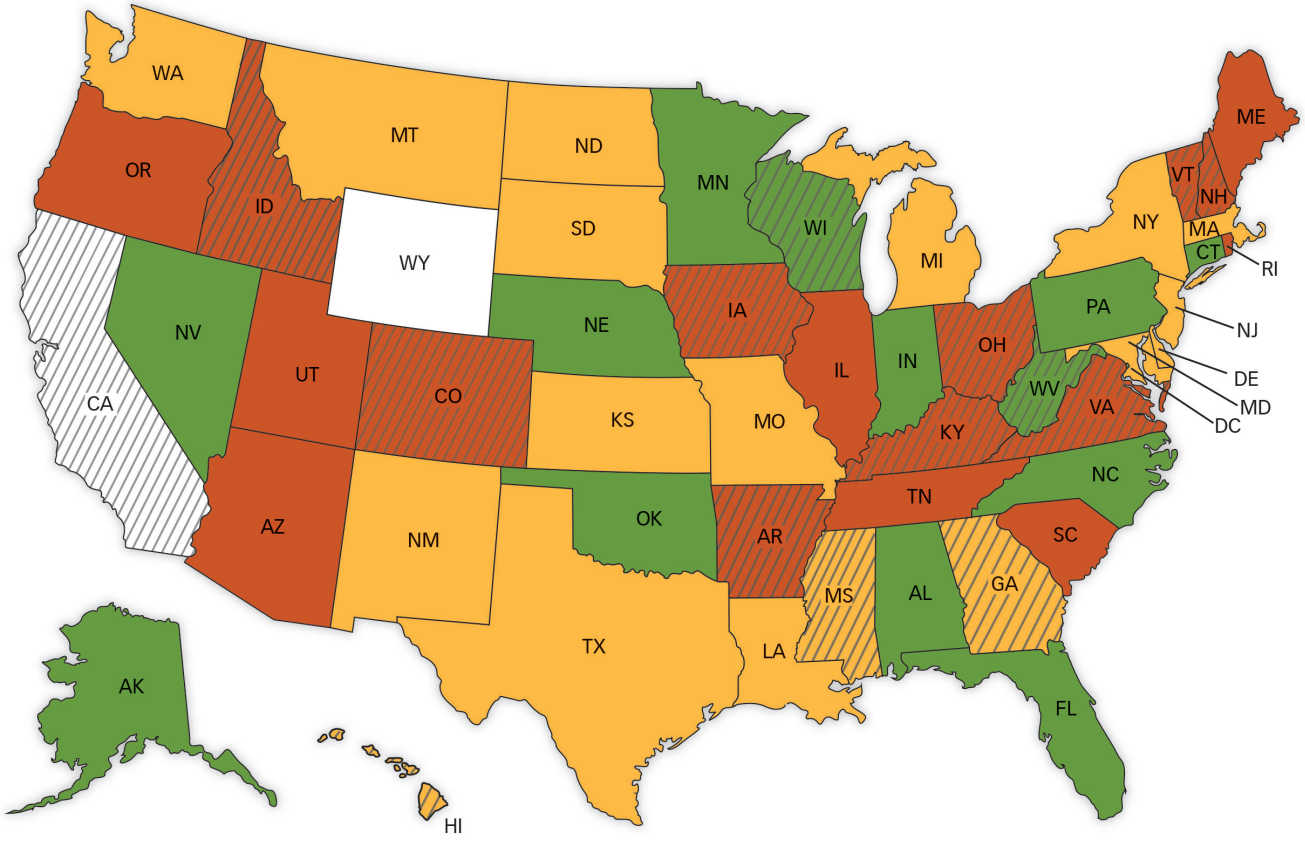
Explore XQ's High School & the Future of Work: A Guide for State Policymakers for insights on what states can do to stimulate high school transformation.

As referenced throughout, those moving forward with a long view will emphasize systemic changes, including high impact policies such as a proficiency-based diploma. Even better, states will take a comprehensive approach to modify policies to not only allow — but also promote — a competency-based approach.

After all, policy is only as good as the field's awareness of it and ability to use it. The ExcelInEd report notes, "Even though many states have flexible policies, it does not appear that they have been significantly used by schools and LEAs to date. Lack of awareness of flexibility, lack of knowledge on how best to use that flexibility, or administrative hurdles to obtain that flexibility may account for this. However, competency-based programs can only be effective if LEA and school leaders know about the opportunity to create them and can then translate the opportunity for flexibility into a new educational approach." [49]

The iNACOL map on the next page provides a snapshot of state policy progress as of May 2018.

A SNAPSHOT OF K-12 COMPETENCY EDUCATION STATE POLICY ACROSS THE UNITED STATES



Advanced States
Those states with comprehensive policy alignment and/or an active state role to build capacity in local school systems for competency education.

Developing States
Those states with open state policy flexibility for local school systems to transition to competency education.

Emerging States
Those states with limited flexibility in state policy—usually requiring authorization from the state—for local school systems to shift to competency education, for exploratory initiatives and task forces, and/or with minimal state activity to build local capacity.

No Policies in Competency Education
States with no state-level activity and enabling policies for competency education. Significant policy barriers may exist, such as inflexible seat-time restrictions.

ILN States
The Innovation Lab Network (ILN) is a group of states facilitated by the Council of Chief State School Officers (CCSSO) taking action to identify, test, and implement policies to support student-centered approaches to learning.

iNACOL
International Association for K-12 Online Learning

Image Source: A Snapshot of K-12 Competency Education State Policy Across the United States, iNACOL.


CONTROL RODS
STEAM GENERATOR
ADVANCED GAS-COOLED REACTOR
NEUTRON
SPLIT
ENERGY RELEASE
CHAIN REACTION
4
Technology Developments & Opportunities
Technology has reshaped many areas of education, but some of the most profound changes are still to come. What role will leading-edge technology play in a CBE system?
"BEWARE; FOR I AM FEARLESS, AND THEREFORE POWERFUL."
— MARY SHELLEY
1818
GEOMETRY / TRIGONOMETRY
1969
1879

The price of computing, storage, and devices has plummeted in recent years, leading to dramatic improvement in access in most American schools and the development of early personalized learning models. New school development grant programs like XQ and NGLC have accelerated this development.

Two recent and significant technology advances that have not yet been incorporated into new school models — machine learning and blockchain — are discussed in this section. Also discussed are how these advances could help to advance a new form of credentialing. It is important to note that such developments will take time to take hold and these present a long-term vision rather than a short-term forecast.

Machine Learning

Code that learns may prove to be the most important invention ever. Machine learning (a subset of artificial intelligence), when combined with big data and enabling technologies like robotics, will produce extraordinary benefits and wealth (which is likely to be concentrated) but will lead to significant job dislocation and waves of challenging issues.

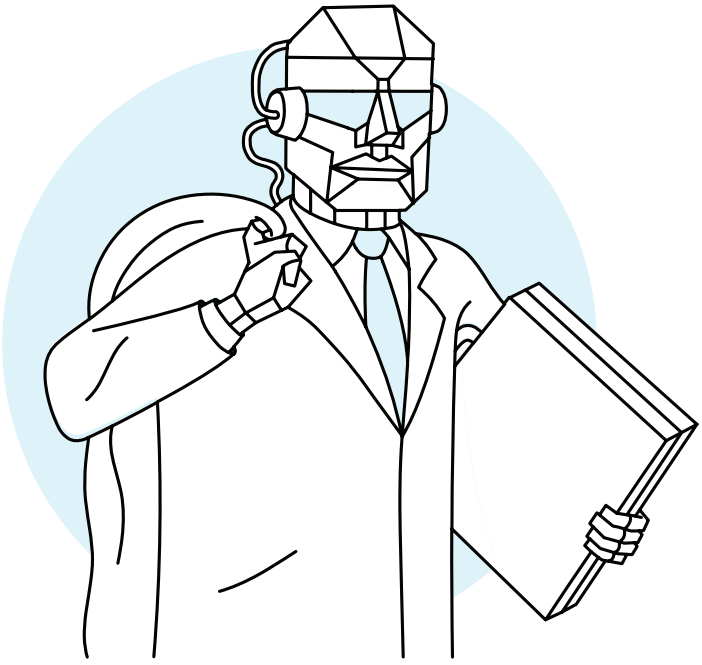
The most important implication of machine learning is the need for updated graduate profiles, and transcripts that include broader measures of success.

In the next three to five years, machine learning will:

- Improve adaptive learning to the point that it's nearly as good as one-on-one tutoring.
- Provide smart recommendations on the best next learning experience.
- Boost interoperability by supporting analysis of learner profiles from different learning environments.
- Provide automated feedback (writing feedback systems are already widely used).
- Help assess skills gained outside the classroom (like Degreed Skill Certifications) to support competency-based progressions.
- Improve hiring, onboarding, and development of school staff.
- Support dynamic scheduling for students and staff.

Looking further ahead, 10 to 15 years down the road, machine learning will support inexpensive, safe, on-demand transportation (through ride sharing and autonomous vans), opening up secondary learning locations and opportunities. Combined with well-developed and widely available out-of-school credentialing systems (e.g., LRNG, MOOCs, dual enrollment programs, and career and technical learning), it would create a much more diverse and personalized secondary landscape. LRNG, for example, is a national network of youth-serving organizations that leverages technology and machine learning to provide experiences and issue badges that reward demonstrated progress on prioritized skillsets.

This dynamic, personalized, and distributed learning future depends on a foundation of competency-based policies, practices, and tools.



Blockchain

As a secure distributed ledger, blockchain technology provides a way for information to be recorded and shared by a community. Each member maintains an updated digital copy of the information, eliminating the need for an information intermediary. The cryptocurrency Bitcoin was the first widespread use of blockchain.

Blockchain will end paper-based certificates, automate the award, provide recognition and enable transfer of credits, increase learner ownership and control over their own data, and reduce institutional data costs and risk — but only if open standards are adopted. Those are the findings of a new report by the Joint Research Centre (JRC), the European Commission's science and knowledge service.

Often called "the new Internet" or the "Internet of Value," blockchain (and Bitcoin) has been heavily trending in the technology press. While it is still young technology, it is also becoming a topic of discussion in edtech and education policy circles.

Rob Abel, CEO of IMS Global Learning Consortium, said, "Blockchain is a very interesting technology that is already in limited use as a way to store traditional credentials, but the application of blockchain to reliably expand the use of microcredentials is still in the realm of R&D." [50]

Teacher micro-credentialing may be the first application for blockchain in education. It would allow teachers to earn credentials (some machine scored, some human judgment, some combinations) and keep their own portable record without relying on a third party.

While blockchain will make it easier to share credentials, it leaves wide open the question of who creates and grants certifications. Employers and educational institutions will need to decide what knowledge and skills are important and how those are developed and assessed. In some cases, machine scoring will be able to verify certain skill claims, but in many cases with important and multidimensional skills, human judgment observation will remain important.

Blockchain will support lifelong learning by making it possible for everyone to assemble a record of learning and expanding capabilities represented by diplomas, certificates, credentials, and artifacts. But

again, the value of these distributed records will be based on the quality of the credentials. Pioneers in issuing blockchain-based credentials include:

- Since 2015, the MIT Media Lab has been using the Blockcerts open standard (developed with Learning Machine) for issuing digital certificates.
- Holberton school, a project-based coding bootcamp that takes a percentage of future earnings, delivers certificates in paper and with a blockchain digital certificate number that can be included on a resume and verified by an employer.
- Sony has developed an in-house certificate-issuing system that uses blockchain to record educational achievements and activity records in an open and safe way.
- Indorse is using blockchain to verify e-portfolios. Users upload claims with a link to verification and other users verify that claim.
- In Europe, the Open University and the University of Nicosia have been experimenting with blockchain certificates. About two percent of Nicosia students pay tuition in Bitcoin.
- BitDegree is a blockchain-powered online education platform that will offer students online courses with a clear and transparent blockchain-based reward system and achievement tracking.

Smart contracts — automated transactions — can be set up in blockchain and executed when specific conditions are met. In some cases, learners will be able to take a test and earn a certificate immediately upon passing. Like Degreed Skill Certificates, an automated process could also incorporate human judgments. The benefit of smart contracts in credentialing will be that the learner can gain portable certification immediately without interacting with an intermediary for verification or record keeping.

A fully equitable personalized learning system would have weighted funding which could be supported by blockchain technology. Weighted funding (i.e., more funding based on more risk factors) could be provided immediately to schools (or to a learner education account) based on verified factors (e.g., family income, learning conditions) and provided to a bank account accessible by certified learning providers based on provision of a learning experience and associated certificate. For example, if a learner chooses private piano lessons over school choir, a certified teacher could receive automated payment based on demonstrated progress.

There are a few startups in the payment space. EduDAO is a nonprofit Ethereum-based blockchain platform that wants to be a public utility that any school can use. They also plan to support crowdfunded causes and impact-focused startups.

It seems clear that blockchain will transform credentialing. More broadly, where political hurdles can be crossed, it should enable personal portable learning profiles that will inform a variety of machine learning applications powering much more sophisticated forms of personalized learning, especially when combined with expanded learning options, smart advising, portable payment mechanisms, and a series of smart contracts.

The combined potential of machine learning and blockchain technology warrant expanded research and development especially in the context of new learning models (i.e., designing new learning

experiences, environments, and tools simultaneously). However, political and communication caution is warranted given the way other attempts to advance interoperability in service of personalized learning ended abruptly amid privacy concerns. The politics of educational R&D are more challenging than the technology.

Credentialing Systems

Based on trends in technology, credentialing, and school network development, next-generation credentialing — or diploma — systems are likely to develop using a common transcript interface, but this transition will take time.

For example, transcript alternatives, including but not limited to Mastery Transcript, could serve as a common user interface between high schools and post-secondary institutions. This could eventually serve as an interface between learners and a landscape of providers. Such a platform would likely eventually use blockchain technology to securely capture and transfer credentials and evidence in common formats, but it will still rely on local or network judgments of mastery. Initially, these judgments will be made by individual independent schools; but as public schools join the consortium, many are likely to participate in regions or networks.

The development of new credentialing systems will likely begin with states, regions, and networks developing common graduation requirements that combine credentials and, in some cases, required or recommended experiences. As illustrated below, such networks would need a transcript interface that aligned with a competency-based diploma and that will provide proper signaling for post-secondary and employer needs. The IB Diploma Programme is an example of a curriculum and exam system used globally. The New York Performance Standards Consortium is a local group of high schools that use performance assessments as an alternative to state tests.

Summit Public Schools is investigating a common diploma system for its managed schools and the 330 schools using the Summit Learning platform. New Tech Network and League of Innovative Schools (and XQ) could do the same. A group of international schools is interested in an Innovation Diploma that combines required experiences and microcredentials.

EXAMPLES OF POTENTIAL DIPLOMA NETWORKS

For the purpose of illustration this table shows existing networks that would have the potential to evolve into a set of diploma networks. This is intended to project a potential concept, not to show what exists today.

New Hampshire Proficiency-Based Diploma Existing regional network, diploma in practice	Summit Public Schools Diploma Existing network, diploma in development	International Baccalaureate Diploma Programme Existing international network, diploma in practice
PACE Network 1	Summit Public Schools	Individual United States Schools
PACE Network 2	Summit Learning Schools in RI	Individual International Schools

Within a single-diploma system, groups of affiliated schools could share a common competency model and assessment systems and will affiliate with a diploma system. For example, while aiming at New Hampshire's proficiency-based diploma, several different groups of schools could emerge from the PACE pilot program.

Path Forward on Blockchain Transcripts

Neither of the national standards groups, IMS Global Learning Consortium (IMS) and Ed-Fi Alliance, has a plan for blockchain, but both are eager to incorporate it into their strategy roadmap.

IMS has been an engaged leader in digital microcredentials, having developed the Open Badges standard and the more recent digital transcript (IMS Extended Transcript) that was developed as part of the AACRAO comprehensive student record program with the National Association of Secondary School Principals in 2016.

IMS is pursuing demonstration projects that will create functioning examples of employer-educator-learner ecosystems where the learner has access to (and the ability to manage) their personal achievements (badges, transcripts, etc.) in a skills marketplace. An early example is a demonstration project with University of Wisconsin Extension and employer recruiting platform Portfolium. More demonstration programs will require financial and technical support to build the sample infrastructure.

The JRC report urges development of open standards for educational records and continued community conversations about the advantages of blockchain technology.

IMPACT OPPORTUNITIES

TECHNOLOGY DEVELOPMENTS:

Establish interoperability and blockchain standards.

Standards groups ought to continue to work together to form combined data standards (like IMS Global and Ed-Fi Alliance) and open blockchain standards

Further interoperability design.

The current inability to combine formative assessment data is a technical, psychometric, political, and business model problem. The field would benefit from creative approaches to solving complex multi-dimensional problems). This includes encouraging districts and networks to exert pressure on vendors to release item-level data (requiring a business model change) to improve interoperability. .

Continue to grow high-quality formative assessment practice.

Districts or networks that are strong in formative assessment practice ought to be leveraged. This could include improvement of content and assessment tagging to facilitate combined formative insights and mastery judgments.

Design and pilot learner profiles that emphasize CBE and include out-of-school learning experiences.

Every student ought to have access to his/her data through a competency-based transcript, personalized learning information (supplemental achievement data, record of services, extracurriculars, etc.), and a portfolio of verified work experiences, community service, and job shadowi

Support development of updated transcripts.

Support transcript platform development that is accessible to all schools, leverage technology, and represent competencies.

5

Opportunities & Recommendations for the Field

CBE will require a new architecture for learning, encompassing both key operating features and supportive strategies to help schools effect change. What are the key levers for making the shift, and how can we activate them?

Throughout this paper, within each section, we have presented impact opportunities related to specific areas and themes. Yet we also acknowledge that, compared with traditional systems, CBE will require a different overall architecture for learning — an architecture that demands both comprehensive design and systemic change efforts to transition existing schools to a new way of operating.

We therefore urge the field as a whole to pursue the development of five core system components, which together will strengthen our collective ability to innovate and build capacity for CBE:

1. New competency-based networks and school models.

Although requiring time and resources, continued support for new school development or high school redesign (directly or through partners) provides a high return and relatively low-risk investment strategy. New rounds of funding could more explicitly focus on the competency-based opportunity.

2. New curriculum and assessment tools designed for competency-based learning models.

By helping leading school networks to improve and open source their curriculum or pushing leading open source providers, thousands of schools could gain access to learning systems (content with embedded assessments and professional learning for teachers).

3. A coherent approach to exponential technology.

Direct investment in promising startups is a possible but high-risk approach. Public-private partnerships with leading school networks in promising states are the best bet. They could be launched as a design competition for a regional learner profile pilot (potentially using blockchain technology) with the potential for follow-on investment.

4. New approaches to technical barriers and design challenges.

Multi-dimensional problems like interoperability could be addressed with low-cost design competitions and by sponsoring specific projects at leading standards groups, such as IMS Global Learning Consortium (IMS) and Ed-Fi Alliance (EdFi).

5. Continued advocacy and case studies.

Supporting channels like CompetencyWorks could provide the field with valuable case studies and process models. CompetencyWorks might also add a new commitment option that makes it easier for schools to participate, thus broadening the base of visible participants and supporters and helping aggregate demand for platform providers (so they begin investing in competency-related features).

We therefore urge the field as a whole to pursue work in these five overarching areas, while continuing to move forward with more specific impact opportunities.

We also acknowledge that real progress will depend on an ambitious and fundamental rethinking of what graduates need to know and be able to do, what evidence will be used to demonstrate and assess their learning, and ultimately, how learning will be credentialed. Our research has strengthened our conviction that an effective, equitable CBE system must be built upon a new infrastructure of goals and requirements — thus calling upon us to rethink the high school credential itself.

Conclusion & Call to Action

To realize the promise of competency-based education, we need to ask fundamental questions about learning itself — and about how to reshape our education system to serve students better and more equitably.

When we take a step back and consider the following three enduring questions about learning in any context, especially a competency-based approach, they force us to rethink many aspects of learning.

1. What do we want students to know and be able to do?

The first imperative is getting the targets right — specific enough to measure but broad enough to encourage deeper learning and special enough to ensure employable skills.

2. How will we know what students know and are able to do?

The second challenge is agreeing upon forms of evidence to be captured and considered and the progress model that will become the core architecture of the school.

3. What experiences and supports will students need to get there? [51]

We will need to agree upon experiences and support likely to produce the outcomes we seek. It's here where available tools, professional learning models, and existing practices leave room for great opportunities to change the learning landscape.

This report has outlined a mostly U.S. K-12 centric perspective on the transition to competency-based education, the barriers to progress, and a series of investment opportunities.

The transition to competency will happen — it is very likely that the core architecture of school will shift from time-keeping to learning — but there is an opportunity to make it happen faster, better, and more equitably.

In short, it begs the question: as we consider time, path, and place, do we also need to rethink the high school credential itself?

The reality is that American youth don't get what they need from high school. There are lots of reasons — some economic, some cultural, some educational. Two root problems are how we've defined the finish (current course-based graduation requirements) and how we communicate success (through a transcript based on seat time requirements).

For 125 years, we've managed and recorded the high school experience as a series of courses and grades. Today's high school transcript is a record of time and activity, but not a very good measure of knowledge, skills, and dispositions. It doesn't capture experiences or work products that provide evidence of growth and accomplishment.

Student course taking is guided primarily by the number and type of credits required by the state (and occasionally also the district) for a high school diploma. These requirements, which define the minimum expectations for compulsory education, are effectively a social contract and equity promise.

Standards-based reforms of the last quarter century have worked to better connect high school with entrance requirements for post-secondary pathways that lead to living wage jobs with long-term opportunity. These standards have been critical in raising sights and more clearly defining what students should know and be able to do by the end of high school, but they are not always accompanied by aligned course requirements. States that haven't yet done so should be sure that their course requirements for a diploma are fully aligned with their new standards.

However, because standards are often accompanied by definitions of "grade level" proficiency, they can create barriers to students moving at their own pace. Course requirements, too, are often time — rather than learning — based, and often isolate knowledge in rigid disciplines, rather than helping students to think in interdisciplinary ways as typically required in real world settings. So even as states move to assure their systems are fully aligned and that there are clear benchmarks for assuring equity, they'll need to find innovative ways to address these tensions. Over time, a better high school credentialing system will require innovations in everything from the way we express our expectations for young people to the way that learning is organized, measured, and recorded.

Outcomes

What's the best way to express desired student learning goals? What are the best outcome frameworks? To what extent should desired outcomes vary by career pathway or post-secondary plans?

Evidence

What forms of evidence most accurately reflect student learning and growth? What evidence should communities accept? Micro-credentials and badges seem like a promising approach, but how can we ensure consistent quality?

Transcript

How could schools help students summarize their capabilities, accomplishments, and aspirations in ways that benefit them and receivers (especially colleges and employers)?

Networks

How could schools be encouraged to work together around common expectations, assessments, and supports?

Equity

If diploma systems become more modular and flexible, how can we ensure equitable access to career pathways? How can we improve guidance to support successful experiences and contributions?

As we ask these important questions, we hope that you will join in on the conversation on both social media and at all manner of conferences and networking events. It is only through collective action, understanding, and learning that we will be able to affect the change that our students both need and deserve.

Appendix

For Additional Information

The research conducted throughout the development of this landscape paper included the identification of a variety of schools, organizations, tools, and other resources impacting the field of competency-based education.

This information has been published in a series of blogs on Getting Smart, which can be accessed at the links below. Please join the conversation by leaving a comment at the bottom of any of these blog posts with any helpful resources we may have missed.

40 Competency-Based Education Publications and Resources: This blog identifies integral competency-based education publications, research, and other resources.

35 Competency-Based Education Advocacy & Research Organizations: This blog post identified and highlighted the work of leading organizations in the effort to shift education to a competency-based paradigm.

Philanthropic Organizations Making an Impact in Competency-Based Education: This blog looks at philanthropy organizations moving the needle forward through their initiatives and funding.

Corporate and Higher Education Examples of Competency-Based Programs: Competency-based learning is not only for K-12. This list looks at post-secondary programs that can provide useful insights.

Model Schools, Districts, Networks and States for Competency-Based Education: An initial list of positive examples. It is is not intended to be a comprehensive list, but rather a sampling of places identified as exemplars by interviewees and/or in other research.

Helpful Tools for Providing Effective Competency-Based Education: The tools listed here represent a sampling of some of the best CBE capable educational technology in the areas of learning platforms/learning management systems, curriculum resources, assessment/reporting, and more.

18 Examples of State Policies that Support Competency-Based Programs: This list provides state policy examples in the areas of flexibility from time-based systems, competency-based diplomas, acceptance of competency-based diplomas, and credits by higher education, flexible learning, state assessments, and innovation pilots.

Research & Interview Process

This paper resulted from years of research, in which the Getting Smart team visited thousands of schools and worked with many of the country's leading school districts and networks. The team has been actively involved in American education policy for twenty years and has written hundreds of papers and articles on the topic of competency-based learning. Building on this foundation, Getting Smart conducted an intensive research process that included the following:

- Phone interviews with more than 50 individuals representing K-12, higher education, technology, and philanthropy;
- Literature reviews of more than 40 publications, along with reviews of books, blogs, podcasts, and other source materials;
- Onsite observations of competency-based approaches; and
- Informal data gathering via organizational websites and toolkits.

One other item worth noting about the field as a whole regarding competency-based education is that we are still in developmental stages. While there are numerous publications and an extensive collection of research to make the case for the underlying principles of competency-based education (see Great School Partnerships' research base), there are fewer studies done specifically regarding achievement at CBE schools. A Rand report summarizes this well by saying, "Recent studies have described the experiences of educators undertaking competency-based reforms or have highlighted promising models, but these studies have not systematically examined the effects of these models on student outcomes." [52]

Getting Smart would like to thank the people and organizations who have been interviewed directly and/or are referenced in the publication.

- The School Superintendents Association (AASA)
- 2Revolutions
- Achieve
- Agilix Buzz
- AltSchool
- American Association of Collegiate Registrars and Admissions Officers (AACRAO)
- Association for Supervision and Curriculum Development (ASCD)
- Asia Society
- Aspen Insititute
- Assessment for Learning Project
- Barr Foundation
- Bartleby Program at Elizabethton High School
- Battelle for Kids
- Big Picture Learning
- BitDegree
- Blockcerts
- Blockchain Research Institute
- BloomBoard
- Brooklyn Laboratory Charter School (LAB)
- Bulb
- Council for Aid to Education (CAE)
- Canvas
- Carnegie Corporation
- Collaborative for Academic, Social, and Emotional Learning (CASEL)
- Center for American Progress (CAP)
- The National Center for the Improvement of Educational Assessment
- Center for Innovation in Education (CIE)
- Chan Zuckerberg Initiative
- Charter School Growth Fund
- Chicago Public Schools
- Christensen Institute
- Chugach School District
- Círculos
- Coalition of Essential Schools (CES)
- The College Board
- College for America
- Colorado Department of Education
- Compass Academy
- CompetencyWorks
- Competency X
- Coursera
- Crosstown High
- Curriculum Associates
- Mesa County Valley School District 51 (d51)
- Deeper Learning
- Da Vinci RISE High
- Design Thinking Academy
- Digication
- Digital Promise
- Eastern Carver County Schools
- Ed-Fi Alliance
- EdLeader21
- Edmodo
- Education Evolving
- EDUCAUSE
- eduDAO
- edX
- EL Education
- Empower Learning
- Epiphany Learning
- Eureka Math
- ExcelinEd
- Fishtree
- Florida Virtual School (FLVS)
- FreshGrade
- Furr Institute for Innovative Thinking (FIIT)
- Google
- Google Classroom
- Gooru
- Grand Rapids Public Museum High School
- Great Minds
- Great Schools Partnership
- Harvard
- Hewlett Foundation
- High Tech High
- Highlander Institute
- Houston Independent School District (HISD)
- Holberton School
- IDEA Public Schools
- Impact Chain Lab (ICL)
- IMS Global Learning Consortium

- International Association for K-12 Online Learning (iNACOL)
- Indorse
- InnovateEDU
- Instructure
- Iowa BIG
- Jobs for the Future (JFF)
- JumpRope
- Kaplan
- Khan Academy
- Kickboard
- KIPP Public Charter Schools
- KnowledgeWorks
- Lakeville Area Public Schools
- Learning Machine
- LEAP Innovations
- Lindsay Unified School District
- Louisiana Department of Education
- LRNG
- Lumina Foundation
- Mastery Transcript Consortium (MTC)
- MasteryConnect
- MasteryTrack
- Making Community Connections Charter School (MC2)
- McGraw-Hill Education
- Microsoft
- Microsoft Classroom
- Minerva University
- Massachusetts Institute of Technology (MIT)
- Motivis Learning
- National Center for Innovation in Education (CIE)
- Naviance
- National Education Association (NEA)
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- New Harmony High
- NewSchools Venture Fund
- New Tech Network
- New York Performance Standards Consortium (NYPSC)
- New Classrooms
- Next Generation Learning Challenges (NGLC)
- New Hampshire Department of Education
- NWEA
- Odell Education
- Open University
- Open Up Resources
- Partnership for 21st Century Skills (P21)
- Pathbrite
- Pearson GradPoint
- Pleasanton Unified School District (PUSD)
- Powderhouse Studiois
- PowerSchool
- PSI High
- Purdue Polytechnic High School
- Realizeit
- reDesign
- Relay Graduate School of Education
- Rogers Family Foundation
- Regional School Unit 2 (RSU2)
- Sanborn Regional School District
- Sony
- Southern New Hampshire University (SNHU)
- Springpoint
- Students at the Center Hub
- Summit Public Schools (SPS)
- Teton Science Schools (TSS)
- The Silicon Schools Fund
- Thrive Public Schools
- Tiger Ventures
- Udacity
- Uncommon Schools
- University of Nicosia (UNIC)
- Washington Leadership Academy
- Westminster Public Schools
- YES Prep Public Schools

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XQ The Super School Project

XQ is a growing and passionate network of educators, students, families, and civic-minded citizens reimagining high school education in the United States. Our mission is to fuel America's collective creativity to transform high school so every student succeeds — no matter their race, gender, or zip code. We want to see that change underway in every high school and in every community — all 14,000+ school districts.

XQ launched in September 2015 as an open call to the nation to rethink and redesign the American high school. More than 10,000 people from all 50 states answered our call with unique ideas for innovative, student-centered high schools that prepare young people for tomorrow's world. XQ has pledged more than $130 million to create Super Schools that make those visions a reality.

Super Schools are just one element to XQ's work. We offer free, open source tools and materials so that every community can rethink their high schools. And because we believe that great high schools for all are a hallmark of a great nation, we are carrying that message into homes, schools, and neighborhoods across the country to tell stories that show how innovative and creative high schools can and should be. XQ is led by Co-Founder and CEO Russlynn Ali, former Assistant Secretary of Education for Civil Rights under President Barack Obama, and Co-Founder and Board Chair Laurene Powell Jobs, president of Emerson Collective. Board members include Geoffrey Canada, Marc Ecko, Michael Klein and Yo-Yo Ma.

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Through our offerings of advisory, advocacy, and design solutions, we have helped our network of impact-oriented partners learn, grow and innovate. Our media channel, GettingSmart.com, has an engaged community of learners, leaders and contributors that cover important events, trends, products, and publications across K-12, early learning, post-secondary education, and lifelong learning. Taken together, these efforts keep our thumb on the pulse of the most pressing and promising developments in education. We welcome you to join us in our effort to improve educational opportunities and outcomes for all, at GettingSmart.com.

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#ShowWhatYouKnow

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All images in this publication were created by XQ Institute or Getting Smart staff unless otherwise noted.

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