

# Ensuring Quality and Equity In Competency-Based Education



# I. INTRODUCTION



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K-12 education in the United States and across the world is at a turning point. The steady march towards equality and justice within our country has changed the context for our education system. At the same time, rapid and unpredictable changes in society and culture have created new expectations for education, changing what we need our education systems to provide for students and our society. The traditional system of public education was not designed with this context or these expectations in mind. The promise of, and demand for competency-based education has never been greater. We have an opportunity to redesign our system and structures so that they are fit for the intended purpose of our education system.

At the highest level, competency-based education is a culture and structure that builds upon everything we've learned about how and why students learn, and designs the system so that every student will be successful. It is not a method of teaching nor a particular approach to schooling, but rather is demonstrated through similar design principles and decision-making from districts and schools. A competency-based structure ensures students are reaching proficiency every step of the way — on each standard, in each unit, in each course and in each performance level. Within competency-based structures are embedded systems to generate reliability that ensure students progress when they are ready, i.e. when they have mastered content and skills, rather than when they have reached a certain age, demonstrated a fixed amount of “seat time,” or performed on a one-time task. While many competency-based schools employ technology as a tool to support student learning and help students to understand their progress in real time, technology itself is not equivalent to a competency-based structure. Like all tools, it can be effective when used appropriately and for a specific purpose. High-quality competency-based education systems anticipate that educators will make choices around pedagogy and how to personalize learning experiences that enable students to build skills and knowledge.

This paper and the ideas within it offer a resource for the field at a critical time in its evolution. The number of schools and districts implementing competency-based models has steadily increased over the past few years. There are many reasons why districts turn to competency education, including lifting the ceiling on learning so that students can excel beyond their grade levels; ensuring students are building higher order skills; seeking to offer students a richer education beyond preparation for college and careers; opening up more opportunities for students to learn any place, any time; and, responding to demographic changes.

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is the only path forward to  
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based education may falter.*

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As the field of competency-based education expands, so have innovations in the field. Schools are refining and strengthening their models, introducing new ideas, and discovering new entry points. Yet, innovation can bring about new practices and models that do not necessarily lead to greater equity and high-quality schools. Thus, as a field we are entering a new stage that requires a robust commitment and vigorous intentionality towards creating the culture, structure, policies and instructional practices that will produce schools that fully support each and every student in their journey towards preparation for college, career and life. Designing for equity and quality is the only path forward to creating an education system that is effective for every student, not just for some. If we fail to do so, students will not receive the education they so deeply deserve and as a movement competency-based education may falter.

As districts and schools have moved beyond initial stages of implementation, refined their approaches, and continued to innovate, we are gaining deeper knowledge and a deeper understanding of the challenges before us. We have had the opportunity to visit a wide variety of schools operating in an ever-growing set of contexts. Through our conversations with practitioners, ongoing research and observations, we have identified a set of four key issues that warrant attention. Getting these four key issues right will enable competency-based education to continue to scale with quality, and be sustained over the long term.

#### Four Key Issues for Advancing Competency-Based Education

##### EQUITY



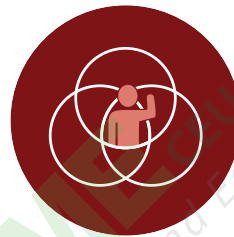
*The vision for educational equity is a thriving, fair and just system. How can competency-based systems of education overcome the history of bias, bigotry, discrimination and oppression that has shaped many students, communities and institutions, including our K-12 education system, and realize educational equity?*

##### QUALITY



*Attention to quality is essential for competency-based cultures and structures to realize their promise for students. What are the most important guiding principles or features of quality that competency-based schools must have in place?*

##### MEETING STUDENTS WHERE THEY ARE



*High-quality systems of competency-based education anchor learning in relationships and an expectation that educators draw upon professional knowledge to select strategies based upon an understanding of their students as individuals, adapting as needed to personalize the learning pathway towards common high expectations. What do schools and educators need to consider in engaging and teaching students that are all at different points along the learning continuum and in different stages of development of the lifelong learning skills?*

##### POLICY



*A state's policy environment provides the enabling conditions for high-quality, equitable systems of competency-based education. While some competency-based schools exist in spite of their policy environment, attending to policies that are aligned with, even if not designed for, competency-based structures can serve as important catalysts for advancing the field. What are the critical policies that will enable and sustain competency-based systems?*



It is critical to ensure that competency-based structures result in high-quality equitable systems that are responsive to students and support them to realize high achievement, no matter where they start or the pathway they pursue. Building a true *system* of competency-based education for the long-term will require all of us to work together as leaders. Failure to do so presents the risk that competency-based education is not sustained and/or that inequity is allowed to continue in which some students are not supported in ways that allow them to realize their own potential. As examples of competency-based education proliferate, far too many have developed without attention to some or all of these four key issues. For example, some schools have adopted the structures but failed to fully attend to culture. Others may have implemented new practices, such as standards-based grading, but did not change assessments or adopt systems to ensure consistency across classrooms.

This paper makes the case for why attending to all four key issues matters, how they relate to each other, and offers ideas for how to approach each one. It begins with an exploration of the intended purpose of public education today. That purpose then grounds a discussion of four key issues. Each issue will be explored in more detail in a separate paper, blogs and other resources to be released over the next few months.

- Realizing the educational purpose for all students to become lifelong learners and fully prepared for the transition to college and career requires that a system of education be designed *for* **EQUITY**. Equity is a moral imperative, and a competency-based structure of education that offers a uniquely potent structure for supporting *all* students to be ready for what happens after high school — college, career and life.
- **QUALITY** refers to efficacy — the capacity to produce the desired result or effect. Attention to quality ensures that education systems fully realize the unique potential of a competency-based structure to support academic and lifelong learning outcomes for students. Without attention to quality in the design and the implementation of competency-based systems, there may not be a meaningful difference in student experience. It is impossible to consider quality in a competency-based system without intentionally seeking greater equity. Equity for all is what drives excellence.
- A system designed to **MEET STUDENTS WHERE THEY ARE** starts with an expectation that educators select strategies based upon an understanding of their students as individuals, adapting as needed to personalize the learning pathway towards common high expectations. Academic skills, social-emotional learning, habits of success<sup>2</sup> and the strength of students' growth mindset are all taken into consideration. Students in turn are active co-constructors of knowledge, rather than passive consumers of content. Learning is visibly and authentically connected to meaningful and important outcomes. Meeting students where they are requires schools to focus on progress, growth and pacing.
- Finally, **POLICY** recognizes that there exists a set of external policy conditions that can accelerate or interfere with the ability of competency-based systems to achieve higher level outcomes for all students. By adopting a long-term strategy for state policy, states can create the conditions for a transformation to competency-based education systems designed to ensure equity so all students can be truly ready for success.

Aware that readers bring different levels of understanding and expertise, the paper offers the following:

- ***For those new to competency-based education***, we offer an introduction to the culture and structure for learning and understanding how it differs from traditional education, in concrete, actionable ways.
- ***For those already engaged deeply in competency-based structures***, we hope this paper provides opportunities to deepen your work and fosters a collective effort to move the entire field forward.

Leaders in competency-based systems today likely find themselves within a continuum of having addressed each of these issues. This paper offers a systems-level view that we hope helps organize these key issues and make transparent their relationship to each other. While our body of knowledge and experience about competency-based education is mounting as more districts make the transition to competency-based education systems, new entry points, alternative strategies for implementation, and different ways to integrate the elements of a powerful competency-based system will continue to be explored. We look forward to continuing learning together.

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## II. UNDERSTANDING COMPETENCY-BASED EDUCATION



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Understanding competency-based education takes time, reflection, and the willingness to challenge assumptions. Most of us grew up and were shaped by our experiences in the traditional school with its focus on schedules, ringing bells, points for good behavior and summative assessments. It's hard to imagine a different system that personalizes the educational experience to the degree that all students are fully engaged and receiving the support they need to advance. In fact, misconceptions about competency-based education develop when only one aspect of the traditional school is challenged — such as pace or grades. Rather, competency-based education is a redesign of the culture and structure of school systems.

In this section, written for those who are new to competency-based education as well as those who are seeking to further deepen their understanding, three different ways to explore competency-based education are offered. First, we revisit the purpose of the K-12 public education system. Second, an analysis of the traditional system is provided and then compared to competency-based education. Finally, it looks at how the personalized learning approach and competency-based systems complement each other.

## A. Readiness for College, Career and Life: The Purpose of K-12 Public Education Today

*“Every system is perfectly designed to get the results it gets.”<sup>3</sup>*

Effective system design starts with a clarity of purpose, or said another way, what are the results we want to get from our system of public education? The current design of our K-12 public education system delivers the following results: After decades of policy reforms and targeted improvement strategies, the on-time graduation rate has inched up to 82%, with states ranging from 61% to 91%. Yet, Alaska Natives, students with disabilities, Native American, African-American, and Latino students continue to graduate at much lower rates: 55, 64, 70, 73 and 76%, respectively.<sup>4</sup> Among those students who do graduate high school, nearly 25% of them, from all socioeconomic groups, require remedial courses in college, costing them and their families \$1.5 billion a year.<sup>5</sup> Graduates who enter the world of work directly after high school fare no better, with 62% of employers by one account indicating that “high schools aren’t doing enough to prepare their graduates to meet the expectations of the workplace.”<sup>6</sup> Students are not fully prepared for civic engagement to ensure a functioning democracy (only 30% of today’s young people believe it is “essential” to live in a country that is governed democratically).<sup>7</sup> These results are evidence that students are not getting what they need, and the implications ripple through their lives, their families, communities and our economy. In the next section of this paper, we will explore why the traditional system is designed to produce these results. First, let’s consider what results we want instead.

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*“Today, schools need to prepare students for more rapid economic and social change than ever before, for jobs that have not yet been created, to use technologies that have not yet been invented, and to solve social problems that we do not yet know will arise.”<sup>8</sup>*

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So, what is the purpose of public education today and what are the results we want it to deliver? The purpose of public education has evolved significantly since the first public school, Boston Latin School, was established in the 17<sup>th</sup> century to educate white males in, among other things, “religion, Latin and classical literature.” Today, states and districts define the purpose of education in variety of different ways.<sup>9</sup> Increasingly that purpose is stated as “college and career readiness,” or a variation thereof. But what does it really mean to be college and career ready? Although the terminology and details may vary, almost all states and districts continue to use a combination of time-based academic credits, state graduation exams and state accountability exams to measure learning. For the majority of states, these elements prioritize content knowledge rather than skills, with a focus upon a narrow set of areas — math and English language arts.

High-quality systems of competency-based education start with a community’s aspirations for students. Completing twelve years of school is an insufficient outcome for students. Students who are able to articulate a vision for their futures, exercise agency in pursuing that vision and effectively navigate their own paths is commonly expressed as the goal for students in competency-based districts and schools.<sup>10</sup> That vision is one that is made available to all students, not simply those on a particular path or from a limited set of backgrounds. While college and career readiness are absolutely central to any educational system, the definition used in most states today is more limited than the vision of educational equity that competency-based education makes possible. For this reason, it is important that this paper begin with a statement of the intended purpose for competency-based education.

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*How states and districts define the purpose of the education system has significant implications for how they design their systems and the results for students. It is important to be clear about the purpose and intentionally align the system to it.*

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Unlike traditional systems of K-12 education, competency-based structures place an equal emphasis upon lifelong skills such as growth mindset, metacognition, learning how to learn, problem-solving, advocacy, collaboration, creativity and the habits of success as they do upon academic content knowledge and skills. Districts that are pursuing competency-based systems share a belief that the current purpose of K-12 education is to facilitate a process through which all students graduate high school with the academic and lifelong learning skills to be leaders in their communities, and agents of their own success — whether in college, career, or navigating the opportunities and challenges they will encounter in their lives. While each community expresses its own values and goals in the choices it makes around curriculum, pedagogy and school rituals, this core purpose is shared by districts leading the way in competency-based education.

As discussed in more detail below, we believe competency-based education offers the most effective structure for achieving this educational purpose. However, realizing this purpose for all students requires attention to issues of equity and quality, meeting students where they are, and policies that create the conditions for success. This clear articulation and understanding of purpose sets us up now to turn to how and why to best achieve that purpose.

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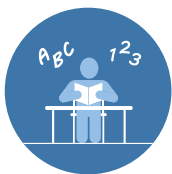
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## B. How Does Competency-Based Education Differ from the Traditional System of Education?

Before exploring key issues in a competency-based system, it is valuable to unpack why the traditional system is an obstacle to creating high-achieving schools and equitable outcomes. The strategies used by districts in response to state accountability exams under No Child Left Behind (NCLB), including one-size-fits all instructional strategies and delivering grade level curriculum regardless of what students know, exposed the traditional system for what it is: a sorting system. Despite implementing a series of education reforms and programs, many schools struggle to produce better outcomes largely because the traditional system is not set up to do so. Despite teachers' persistent best efforts to support every student, the traditional system passes students on before they have mastered each stage of learning. Those who have mastered the skills continue on a path towards graduation and college. For those who have not, little is offered to help them learn what was expected. The result is a new set of students each year who may not have the necessary prerequisite skills and knowledge to take on the content offered by each successive year's teachers. This sets up teachers and students alike for failure. This sorting function of traditional education is exacerbated by unequal and inequitable school resources that continue to haunt the education system.

### Ten Flaws in the Traditional System

The traditional system is simply not designed to produce the goals we have set for it, or that our children, communities and nation so desperately need and deserve. There are ten primary flaws in the traditional system that can be corrected by redesigning the system for success in which all students achieve mastery. These flaws include that the traditional system:



Is focused on a narrow set of academic outcomes and fails to recognize that student success is dependent on a full range of foundational skills, including social-emotional skills, and the application of skills. Competency education is designed to help students learn academic knowledge, the skills to apply it and lifelong learning skills that are needed to be fully prepared for college, career and life.



Is time-based. Schools batch students by age and move them through the same content and courses at the same pace. Students advance to the next grade level after a year of schooling regardless of what they actually learned.<sup>11</sup> Competency-based education is based on learning: students must demonstrate mastery of learning, with schools monitoring pace and offering additional supports to meet time-bound targets.



Uses academic grading practices that can often send misleading signals about what students know by reflecting a mix of factors, including behavior, assignment completion and getting a passing grade on tests, not student learning. Grading in competency education is designed to communicate student progress in learning academic skills and content as well as the skills they need to be lifelong learners.



Relies upon a bureaucratic, hierarchical system that perpetuates traditional roles, cultural norms and power dynamics that doesn't support inclusivity and cultural responsiveness. Competency education seeks to create an empowering, responsive system that is designed to build trust and challenge inequity.



Is built on a fixed mindset — the notion that people's "abilities are carved in stone". In contrast, a competency-based education system is built upon a growth mindset with a belief that all children can learn with the right mix of challenges and supports.<sup>12</sup>



Depends on extrinsic motivation. Competency education fosters intrinsic motivation by activating student agency and providing multiple opportunities for learning to the same high standards.

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*Learning something new, something hard,  
sticking to things—that's how you get smarter.*

*Setbacks and feedback weren't about your  
abilities, they were information you could use  
to help yourself learn. With a growth mindset,  
kids don't necessarily think that there's no such  
thing as talent or that everyone is the same, but  
they believe everyone can develop their abilities  
through hard work, strategies, and lots of help  
and mentoring from others.<sup>13</sup>*

- Carol Dweck, author of Mindset

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Emphasizes covering the curriculum and fails to reflect the learning sciences about what we know about how children learn. In competency-based education, everything should be rooted in what we know is best for students in terms of engagement, motivation and learning.



Is organized to efficiently deliver curriculum and assessing students' proficiency at low levels such as memorization and comprehension of content knowledge rather than applied learning and mastery. Competency-based education is organized to personalize learning and support the development of higher order skills such as analysis, evaluation and problem-solving.



Has high variability in how teachers determine proficiency. Competency-based systems build educator capacity to make judgments of student mastery to the same high standards and calibrated for consistency with other teachers.



Ranks and sorts students creating "winners" and "losers" and perpetuating patterns of inequality in society. Competency-based education meets students where they are to ensure that each one can be successful to the same high college- and career-ready standards.

The result of the traditional system is educational inequity. There are many ways to measure educational outcomes. However, rates of college and career readiness provide one insight into how we are doing at ensuring historically underserved students receive an education that prepares them for success. In New York, for example, 76.3% of New York students from the class of 2014 took the SAT. Of these SAT test-takers, 39.2% (60,611 students) met the SAT College and Career Readiness Benchmark.<sup>14</sup> The number of students not meeting this one benchmark is especially acute among underrepresented minority students:

- 14.1% of New York's African American SAT takers met the benchmark.
- 19.3% of New York's Hispanic SAT takers met the benchmark.
- 24.5% of New York's Native American SAT takers met the benchmark.

These troubling inequities are similar to those in other districts and states across the nation.

Traditional systems determine their work “complete” when students meet the number of credits required for high school graduation despite the persistent inability to adequately prepare so many students for success in college, career and life. Time-based credits have allowed districts to graduate students from high school with only middle school skills or worse. Transcripts listing courses say little about academic skills, and students bear the cost — 68% of those starting at public 2-year institutions and 40% of those starting at public 4-year institutions took at least one remedial course.<sup>15</sup>

Another way to think about the equity of the education system is to consider opportunity gaps. Research at Stanford University looked at academic achievement and found that<sup>16</sup>:

- The most and least socioeconomically advantaged districts have average performance levels more than four grade levels apart.
- Average test scores of black students are, on average, roughly two grade levels lower than those of white students in the same district; the Hispanic-white difference is roughly one-and-a-half grade levels.

The technique to determine achievement and identify inequity that is most relied on today is the use of summative exams, designed to support accountability policies, based on grade-level expectations. NAEP’s data reminds us that only one-third of our students test at proficient or above in eighth grade math, reading and science. Breathtakingly shocking is that 13% of black students are proficient or above in eighth grade math and 16% in eighth grade reading.<sup>17</sup> Or is it really so shocking? If the traditional education system is designed to sort students rather than help all students learn, why would we expect results different than these?

## How Competency-Based Education Differs from the Traditional Education System

*In a proficiency system, failure or poor performance may be part of the student’s learning curve, but it is not an outcome. – Proficiency-Based Instruction and Assessment, Oregon Education Roundtable*

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Across the country, schools, districts and states are replacing the traditional, time-based structure with one that is designed to help each student reach proficiency. Educators organize learning in a variety of ways that respond to students and are designed to motivate and engage students in mastery of their own learning. Competency-based structures are also designed to ensure students reach proficiency so that students and parents are confident that their students are learning what they need to as they advance towards graduation.



**Students advance upon demonstrated mastery** — By advancing upon demonstrated mastery rather than on seat time, students are more engaged and motivated, and educators can direct their efforts to where students need the most help.



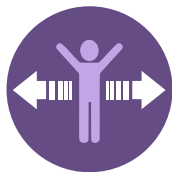
**Competencies include explicit, measurable, transferable learning objectives that empower students** — With clear, transparent learning objectives, students have greater ownership over their education.



**Students receive timely, differentiated support based on their individual learning needs** — Students receive the supports and flexibility they need, when they need them, to learn, thrive and master the competencies they will need to succeed.



**Assessment is meaningful and a positive learning experience for students** — New systems of assessments give students real-time information on their progress and provide the opportunity to show evidence of higher order skills, whenever they are ready, rather than at set points in time during the school year.



**Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions** — Personalized, competency-based learning models meet each student where they are to build the knowledge, skills and abilities they will need to succeed in postsecondary education, in an ever-changing workplace and in civic life.

The section below illustrates key differences between competency-based education as compared to traditional education systems, and offers examples of how competency-based systems can embed an intentional focus upon equity.

Traditional Education	VS. Competency-Based Education	Examples of High-Quality Competency-Based Education with Equity at the Center
Students advance upon the end of a fixed period of time regardless if they fully learned the concepts and skills.	Students continue to receive instructional support until they fully learn the concepts and skills and then advance after demonstrating mastery. This requires additional instructional support, not retention.	Students' learning pathways and the amount of instructional support reflect a pace and rate of progress designed to result in students achieving mastery of college and career readiness by graduation.
Learning targets are organized around age-based grade levels and provide key skills/knowledge that may be used later in higher-level courses.	Measurable learning targets are transparent to students. Schools ensure students have the opportunity to apply or transfer a learning target to new contexts. Schools monitor student growth and pace within pathways to master standards and competencies.	Individual pathways take into consideration students' zone of proximal development, build upon students prior knowledge and experience, and address disparities in foundational knowledge.
The school and instruction are designed to deliver a single curriculum to all students based on age.	Districts and schools are organized with greater flexibility to provide instruction and learning opportunities to meet students where they are and take advantage of anytime, anywhere learning.	Instruction is grounded in personal relationships and curriculum is intentionally examined to address bias and create a culture of inclusivity. Instruction incorporates Universal Design for Learning strategies.
Students may receive targeted supports when their academic or behavioral needs are identified as significantly above or below the norm (i.e. SPED, gifted).	Students receive timely, differentiated support based on their learning needs.	Students receive culturally responsive support and instruction. Students who are off-track to graduation by 18 have an academic pathway that enables them to complete their secondary education.
Assessment is used principally for summative purposes. Assessments are conducted at pre-determined points of time or at end of unit and are administered to all students at the same time and in the same format on the same content.	Assessments are embedded throughout a student's learning cycle, and are used primarily to orient a student along their individual learning pathway, as well as inform next steps. Students have options for providing evidence of learning.	Assessments for learning include applying knowledge in novel contexts and providing evidence. Assessment cycles include coaching students on building the skills needed and increasing student agency including developing growth mindset, habits of success and learning skills.
Learning outcomes emphasize academic skills, memorization and comprehension of content. May or may not be aligned to higher order skills or require demonstrations of how to use skills and knowledge.	Learning outcomes emphasize competencies that include deep understanding of content knowledge demonstrated through application as well as the skills to be lifelong learners.	Students are recognized for the assets they already possess and encouraged to develop their interests and talents, while building academic knowledge, skills and competencies.
Grades reflect a combination of completing assignments, scores on tests and other assessments, and behavior. Grades are used to create grade point averages to rank and sort students.	Schools know the performance levels of each student and closely monitor growth and progress of students. Scoring is used to communicate with students about their progress in learning.	Monitoring how students progress is key to ensuring all students meet high levels of rigor. Teachers use data on student progress to collaborate and use research-based strategies to help students progress.

## C. Competency-Based Education and Personalized Learning Go Hand in Hand

Competency-based structures focus upon each student's unique K-12 educational journey while ensuring that all students emerge from their K-12 experience ready to pursue and succeed in the postsecondary pathway of their choice. In this way, they are designed for equity with a focus upon responsiveness, consistency, transparency, fairness and continuous improvement. As the learning sciences tell us,<sup>18</sup> it is important to personalize learning rather than depend on the one-size-fits-all instruction and curriculum of the traditional system. In fact it would be nearly impossible to have all students reach college and career readiness without doing so.

Competency-based education assumes that schools will meet students where they are; personalized learning is an approach to optimizing a school's pedagogical strategy to effectively support each student, drawing on research about learning, motivation and engagement.<sup>19</sup> In schools using personalized learning, students are active learners with:

- Choice in how they learn,
- Voice to co-create learning experiences and express their own ideas,
- Options to personalize their pathways, and
- Leadership opportunities in which they can shape or contribute to their own environment.

In order to become active learners who have a sense of ownership of their education, students need to have the right mix of mindsets and skills. Schools invest in helping students build the growth mindset and academic mindset as well as the habits of success and social-emotional skills they need to be self-directed learners and engage in productive struggle. Schools play a critical role in creating the learning opportunities and coaching that students need to successfully learn how to learn. Instruction is designed to meet students where they are, taking into account their prerequisite skills, mindsets, habits and interests.

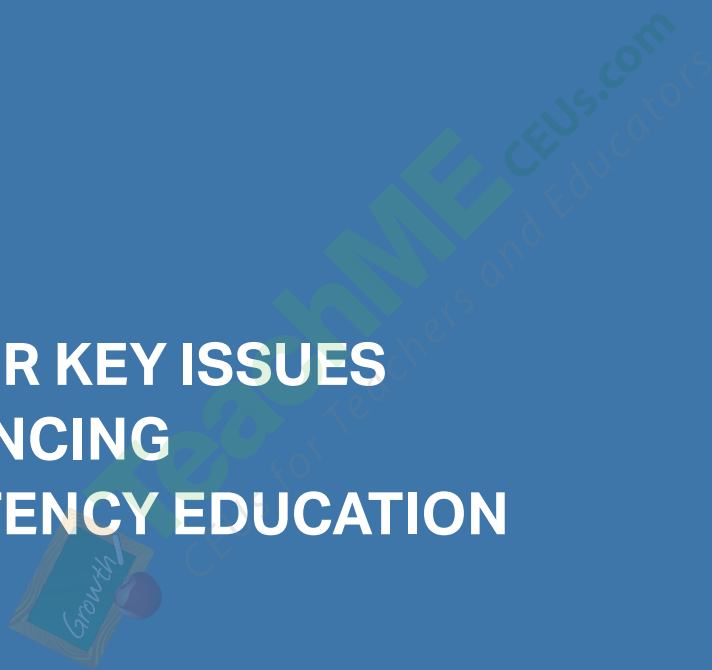
**Personalized Learning** is a phrase used to refer to several learning strategies including the use of technology. It is used here to refer to strategies to engage and motivate students while supporting them in their unique learning path.

“Personalized learning is 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.”

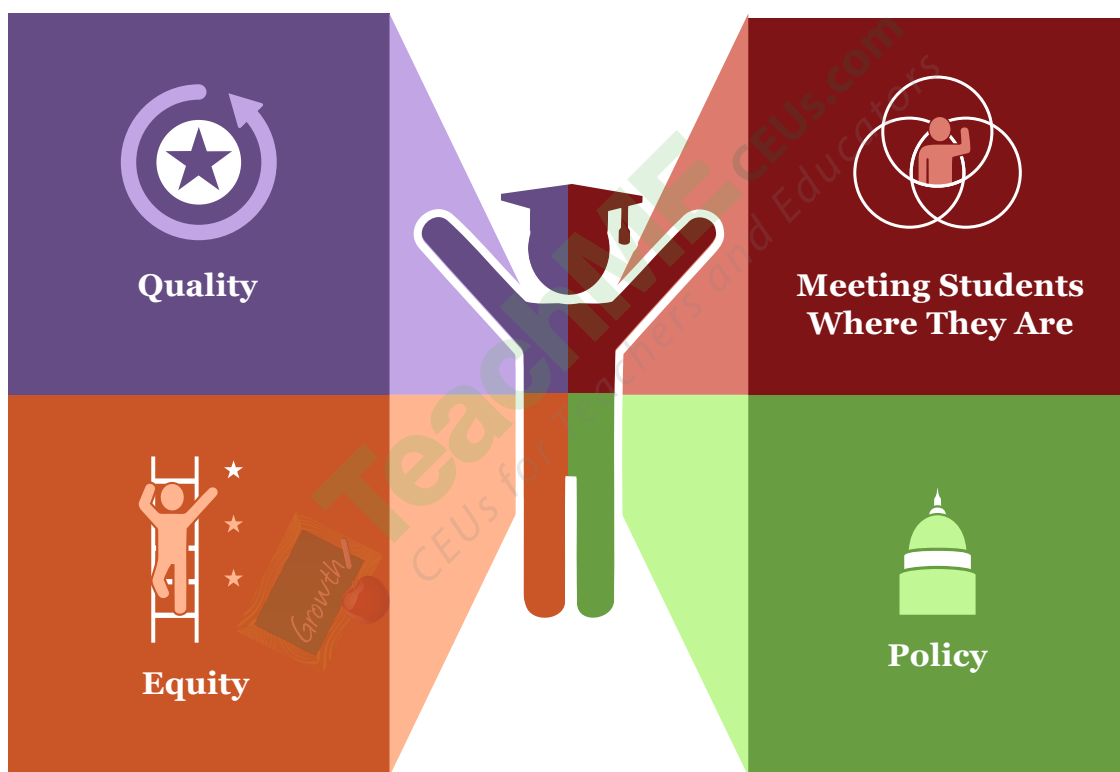
- iNACOL, *Mean What You Say: Defining and Differentiating Personalized, Blended and Competency Education*, 2011

Personalized learning relies on the competency-based structures that produce consistency in validating proficiency based on student work, and careful monitoring of pace and progress. This consistency and monitoring is important for districts and schools becoming accountable for student success. Personalization without a competency-based system has the potential to perpetuate and in some instances even exacerbate inequity. Competency education without personalization means that students will not receive the instruction and support they need to learn. While the design of competency-based structures and personalized learning practices naturally support equitable education, realizing this goal requires intentionality as will be further discussed in this paper.

### III. THE FOUR KEY ISSUES IN ADVANCING COMPETENCY EDUCATION



We turn next to a discussion of each of the four key issues. First, a set of design principles for a high-quality *system* of competency-based education is explored. Then, the paper focuses upon developing an equity framework. Please note, the issues of high-quality education systems and equity are fully intertwined. It is impossible to reach one without the other. Next, the paper dives into the practices that enable districts and schools to truly meet all students where they are and respond in ways that are designed for success. Finally, the paper addresses key policy issues that are important to create the conditions in which high-quality systems of competency-based education can thrive and grow. Building a true system of competency-based education requires that we pay attention to each of these issues and fully understand their intersections.







## A. Building Shared Understanding of Quality through Design Principles<sup>20</sup>

*“Inclusive, good-quality education is a foundation for dynamic, equitable societies.”  
- Desmond Tutu*

Schools have implemented competency-based education models for decades. Recent years have seen an increase in the number of districts and schools adopting competency-based education with a handful of states seeking to create innovation space, pilots or a vision for transforming the education systems across the entire state.<sup>21</sup> As the number of competency-based schools has expanded, some have done so with a deep foundational understanding of the purpose, culture and key elements of competency-based education. Others have not, instead treating it as a technical reform or resorting to piecemeal implementation. As a result, some competency-based schools have not always served kids in a way that fulfills the promise of this model. This means that many students are not benefitting as much as they could and puts scaling of competency-based education at risk.

Quality has a moral component to it. Before diving into the constituent parts and examples of quality, it is important to remember that quality matters because it directly influences our ability to make good on our social contract with students and our broader community. While producing high-quality schools may require attention to technical issues, it must start with a belief in the moral imperative of supporting and empowering the next generation of adults. In fact, it is the very beliefs, assumptions and values that shape the culture of a competency-based school that make the structure so powerful. The competency-based structure will falter if it rests on the beliefs and assumptions upon which the traditional system was built.

In order to develop an understanding of quality in competency-based schools, it was important to take advantage of the deep well of experience of educators in designing and implementing competency-based systems. The 16 Quality Design Principles discussed below have been identified based on site visits, interviews and guidance from participants in the National Summit on K-12 Competency-Based Education. Although these 16 Quality Design Principles can lead to different models, innovators draw upon them to help them “get it right” i.e. to create an integrated system that helps students to learn, adults to learn how to better support students, and the organization to adjust in search of greater effectiveness. Innovators consistently report that “getting it right” requires a commitment to comprehensive implementation that starts with attention to the underlying culture of districts and schools and maintains an unrelenting focus on equity. More detail about how districts have used these design principles will be offered in the forthcoming report, *Building a Shared Understanding of Quality: The 16 Design Principles of Competency-Based Education*.

A commitment to implement all of the Quality Design Principles is necessary to embed and sustain a competency-based structure within educational systems. For example, schools that try to increase transparency with standards-based grading, but fail to build the capacity to cultivate a growth mindset and provide greater instructional support to respond to struggling students, are unlikely to see higher engagement or achievement. Having said this, districts and schools use different entry points to transform their systems. At any point, schools and districts will find themselves at different steps along a continuum of implementing each of the principles. No matter what the entry point, these principles are intended to support districts as they build out a competency-based system with quality. Consider these 16 Quality Design Principles as a cohesive framework that offers a set of guideposts for schools and districts, whatever their entry point may be. Thus, we can think of each of these design principles as a potential doorway rather than as a set of sequential steps.

As states, districts and schools re-design education systems, we hope the set of 16 Quality Design Principles below will be helpful in the planning and execution of competency-based education systems and personalized learning approaches. To be clear, quality does not require a single model or approach. In fact, schools and districts with strong results find themselves engaged in an ongoing cycle of continuous improvement and reflection. However, we offer these design principles as a common reference point for dialogue about what makes a competency-based system high quality.

## Sixteen Quality Design Principles

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There are multiple ways to approach quality. Given where the field is — with a growing number of leading districts that are seeking full implementation, innovative school models that seek to draw upon transparent continuums of learning to open up new opportunities for students to pursue rich learning experiences, and increasing numbers of districts and schools just beginning or stumbling in their implementation — we offer design principles as a way to engage in deep dialogue and offer concrete exemplars about the design and implementation of high-quality competency-based systems. As the field progresses, it is anticipated that more formal approaches to ensuring quality will be needed.

The 16 Quality Design Principles are organized into three categories: Culture, Structure, and Teaching and Learning. A high-quality competency-based system starts with Culture. A school's culture — the values, beliefs, relationships, rituals and routines — provides the foundation of a high-quality school and reinforces its core purpose. Next, the Structure refers to the organizational architecture, processes and policies that create the conditions for teaching and learning. Attention to each of the Structure Design Principles is necessary in order to make good on the promise of supporting all students to reach mastery. Finally, competency-based schools create a shared understanding of Teaching and Learning based on learning sciences. There is no one right instructional method in competency-based schools although there are implications for instruction and assessment. The section on "Meeting Students Where They Are So That Everyone Masters Learning" will delve deeper into the strategies for teaching and learning in quality competency-based systems.

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*Quality has a moral component to it. Before diving into the constituent parts and examples of quality, it is important to remember that quality matters because it directly influences our ability to make good on our social contract with students and our broader community. While producing quality may require attention to technical issues, it must start with a belief in the moral imperative of supporting and empowering the next generation of adults. In fact, it is the very beliefs, assumptions and values that shape the culture of a competency-based school that make the structure powerful. Without a strong culture of learning and belonging, the competency-based structure will falter if it rests on the beliefs and assumptions upon which the traditional system was built.*

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## CULTURE DESIGN PRINCIPLES

Culture refers to the beliefs, perceptions, relationships, attitudes, practices, rituals, routines and rules (both formal and informal) that inform the day-to-day interactions of people at a school.

- 1 Equity
- 2 Learning and Inclusivity
- 3 Relevance
- 4 Empowering and Adaptive Leadership
- 5 Growth Mindset

## STRUCTURE DESIGN PRINCIPLES

Structure refers to the beliefs, organizational configurations, processes and policies that create the conditions for high-quality learning. In a competency-based system, the structure is designed to support mastery by all students.

- 6 Advancement Upon Demonstrated Mastery
- 7 Transparency
- 8 Intentionality and Alignment
- 9 Consistency and Reliability
- 10 Flexibility
- 11 Educators as Learners
- 12 Continuous Improvement & Organizational Learning

## TEACHING AND LEARNING DESIGN PRINCIPLES

These principles relate to a theory and practice of teaching and learning that is based on the learning sciences and is shared across a school. It includes approaches to and uses of assessment as a critical ingredient to responsive teaching.

- 13 Based on Learning Sciences
- 14 Student Agency and Ownership
- 15 Rigorous Higher-Level Skills
- 16 Responsive

## Culture Design Principles

A school's culture is the daily manifestation of its core beliefs; adults' beliefs about themselves and their students; students' beliefs about themselves and the adults around them; and beliefs about the outcomes that a school seeks to make possible with and for students. The school culture can be found in the relationships, the formal and informal routines and rituals, and in what gets attention and what doesn't. School and district leadership, whether intentionally or not, influence school culture. Thus, the leadership and management strategies used will reinforce or undermine school culture.



### 1. COMMIT TO EQUITY

Equity is grounded in the belief that fairness means that each person receives what they need to succeed, rather than the same as everyone else. Thus, schools with an equity culture must provide teachers with the opportunity to get to know their students and the flexibility to respond to them. An equity culture is grounded in building strong trusting relationships between individuals that can support dialogue, reflection and learning. Schools that are building upon a culture of equity include in their principles of teaching a set of explicit strategies to embed cultural responsiveness and principles of Universal Design for Learning. Similarly, they turn to structures and processes such as continuous improvement to root out bias and institutional practices that contribute to inequity. We simply can not reach mastery for all students without addressing inequity.

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*Equity strategies are designed to ensure that all students, including those who have been historically underserved, fully benefit from the educational system. Common equity strategies include culturally responsive instruction, Universal Design for Learning principles, literacy across the curriculum, adult self-reflection to identify bias, and continuous improvement processes to identify patterns of inequity.*

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### 2. NURTURE A CULTURE OF LEARNING AND INCLUSIVITY

A culture of learning and inclusivity fosters learning for both students and adults. Building a strong culture of learning and inclusivity acknowledges that students must feel physically and emotionally safe in order to be ready to learn. Safety and trust are also prerequisites to risk-taking, which is in turn critical to productive struggle. Adults must experience this sense of safety themselves in order to foster this for students.

A culture of learning requires a shift from thinking about learning as a sequential process with an end point. Instead, everyone is learning and receives the instructional support they need for mastery of the skills and concepts. Furthermore, a culture of learning seeks to help students become self-aware, effective learners so that they are empowered as learners throughout their lives.

A culture of inclusivity reinforces that all students have a place within a learning community. This sense of belonging is reinforced through the rituals and routines in a school as well as the equity practices. One of the most powerful features of competency-based schools is the understanding that everyone is a learner and eliminating the trap of defining oneself as “a good student” or “school is not for me.” Instead, students understand where they are along a continuum of learning and feel that teachers care because they are helping them to learn and grow.



### 3. BUILD CONNECTIONS THAT INCREASE RELEVANCE

Quality requires intentionality, and intentionality requires that schools be clear about their mission and design around it. The purpose of education must be rooted in the lives of students and their families. As discussed earlier, the purpose of public K-12 education is to prepare students for college, career and life. Districts and schools can shape what this means in terms of specific skills, knowledge and traits. High-quality districts and schools think about what skills are needed for success beyond high school. Fulfilling this purpose necessitates an understanding of students’ vision for their lives. An effective culture creates regular opportunities for students and adults alike to make connections to their current and future lives within the learning process.



### 4. CULTIVATE EMPOWERING AND ADAPTIVE LEADERSHIP

A culture of adaptive leadership that empowers others within a school is needed to create the flexibility and responsiveness to personalize learning and respond to students’ changing needs. Leadership is adaptive — it responds to real-time circumstances of students and anticipates leadership from educators and students alike. When students are building agency and having voice in their education, it is important that teachers are equally empowered to engage and co-construct learning experiences.

This view of leadership is distinct from most traditional schools that generally draw upon a bureaucratic culture and top-down management strategies. A culture of empowering and adaptive leadership provides autonomy to those closest to students, enabling them to respond to students’ needs in real time. A competency-based school without this autonomy will be hard pressed to reliably meet students where they are.

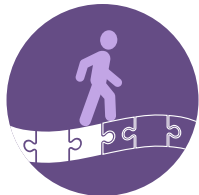


### 5. FOSTER THE DEVELOPMENT OF GROWTH MINDSET

Undergirding the traditional system is a belief that there are winners and losers based on the idea that intelligence is fixed and there is little to do about it. The result is some students are well served receiving the education that prepares them for college and others are underserved. By contrast, a growth mindset culture believes that intelligence is malleable. It anticipates failure and systematically exploits it to advance learning.<sup>22</sup> The importance of the growth mindset applies to students and adults alike. In Dr. Richard Elmore’s concept of “reciprocal accountability,” implementation of high-quality competency-based systems must attend to the pedagogy of adult learning and capacity building as carefully as they attend to the pedagogy of students. Creating environments where students engage in productive struggle and risk-taking requires educators to also have opportunity for risk-taking so that they build the capacity to foster this in effective ways for students.

## Structure Design Principles

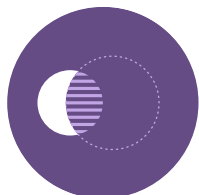
Structure refers to the arrangement of, and relationship between, the elements of a system. It is the policies, processes and practices that influence decision making and the daily operations of a school. In a competency-based system, the structure is designed to support mastery by all students.



### 6. ADVANCE UPON DEMONSTRATED MASTERY

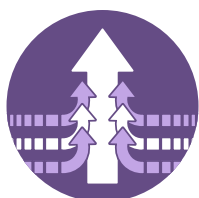
When students advance upon demonstrated mastery, not the passage of time, educators direct their efforts to where students need the most help and make sure they learn the skills they will need in more advanced courses. Advancement upon mastery replaces the practice of promoting students, despite gaps in their knowledge and skills.

The practice of advancing upon mastery is grounded in research on motivation, engagement and learning. Students are more engaged and motivated when grading is seen as feedback that helps them focus on what they need to work. As a result, students may spend more time working in those areas that are more difficult for them. They may even advance beyond grade level in some academic domains, while more instruction is available to progress in those areas that are more challenging. Policies and processes organized around student advancement based on demonstration of mastery include: multiple opportunities and methods to demonstrate learning; targeted and timely instruction; coaching that supports students as they strive for the next level of mastery; transparent feedback and grading practices; and, monitoring pace and progress.



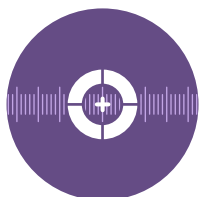
### 7. MAXIMIZE TRANSPARENCY

The continuum of student learning objectives, performance, growth and progress are transparent to all. Transparency of the teaching and learning philosophy also facilitates student ownership and builds intrinsic motivation for students. When adaptive leadership is combined with greater transparency, organizational decision-making processes can increase participation and generate trust. As a result, everyone can be actively engaged in the process of continuous improvement and empowered leadership.



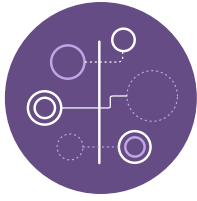
### 8. SEEK INTENTIONALITY AND ALIGNMENT

Quality competency-based schools require intentionality to ensure that every part of their districts and schools are designed to support student learning. There are clear reasons for each choice in the design and operations of a school, and each choice supports alignment with the school mission. Instruction, assessment and learning experiences (curriculum) are aligned with the appropriate depth of knowledge of standards. When making decisions, adults ask the question, "What's best for kids?" to ensure that there is alignment with the learning sciences.



### 9. ESTABLISH MECHANISMS TO ENSURE CONSISTENCY AND RELIABILITY

A competency-based system is organized around the principle that students advance upon demonstrated mastery of learning objectives. In order to do so, those learning objectives must be clearly articulated and reliably understood by all. Learning objectives must be calibrated within the school and across the district. By creating cross-district and cross-school calibration, the variability in expectations will be reduced. Transparency of those learning objectives and creating a shared understanding of what proficiency looks like is critical to building trust among teachers and among students and teachers.



### **10. INCREASE ORGANIZATIONAL FLEXIBILITY**

Schools require autonomy to be responsive and flexible to meet student needs. Once we know where students are in their learning, it is incumbent upon a competency-based system to respond in ways that will engage, motivate and provide the needed instructional support. This adaptability requires a flexible structure. The organization of districts and schools enables educators to respond to students with personalized and differentiated strategies. Environments and time are flexible — students receive more instructional support when they need it and learning may take place in the classroom, online, in the community or the workplace. Instructional strategies are also flexible and may call for direct instruction, small groups or project-based learning. Teachers have autonomy to organize tools and resources, including hands-on and online instructional strategies.



### **11. INVEST IN EDUCATORS AS LEARNERS**

Educators are active learners in a quality competency-based system. The practitioner shifts from “teacher” to researcher, designer, diagnostician and expert facilitator of constructive learning experiences. There exists regular opportunities to develop professional expertise that respond to a combination of goals and areas of need, informed by the progress of their students. When teachers are active learners, they reinforce and contribute to the culture of continuous improvement.



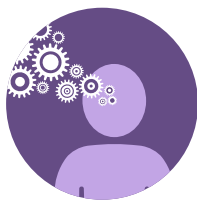
### **12. DEVELOP PROCESSES FOR ONGOING CONTINUOUS IMPROVEMENT AND ORGANIZATIONAL LEARNING**

Quality competency-based systems model the learning orientation that they seek to foster in students. District and school leaders use continuous improvement to challenge bias and inequitable practices, redirect resources towards students who need more support, and are constantly engaged in testing out new ideas that can improve overall learning and school performance. The structures in place support educators’ abilities to respond to student learning, support professional learning, and organizational improvement based on the pace, progress and growth of students. Assessment is part of the cycle of learning: It is intentionally incorporated to deepen understanding of content as well as strengthen critical skills that empower learners to seek out and engage with content more deeply, meaningfully and productively.



## Teaching and Learning Design Principles

These principles relate to a theory and practice of teaching and learning that is based in research and is shared across a school.



### 13. BASE SCHOOL DESIGN AND PEDAGOGY ON LEARNING SCIENCES

Competency-based systems leverage a variety of instructional approaches. There is not a preferred approach. Whatever the approach it must be explicit, shared and grounded in research about learning, motivation and engagement. Responding effectively within a student's zone of proximal development necessitates a well-developed understanding of effective practices. Pedagogy includes approaches to and uses of assessment as critical ingredients to responsive teaching.



### 14. ACTIVATE STUDENT AGENCY AND OWNERSHIP

Cultivating agency, the ability to direct one's course in life, is a core objective of quality competency-based schools. Like any other skill, practice is necessary for mastery. Competency-based schools support students' agency by seeking out opportunities for students to inform and ultimately lead their own learning trajectory. With gradual release, students have expanded opportunities for practicing habits of success, self-direction and choice. The school's culture of growth enables these learning experiences to be positive rather than opportunities for failure.



### 15. DESIGN FOR THE DEVELOPMENT OF RIGOROUS HIGHER-LEVEL SKILLS

Quality requires not only that students master content but that they have opportunity to apply their learning to different contexts. This enables them to engage in deeper learning and build higher level skills. It also depends upon learning that regularly involves productive struggle. Productive struggle, in turn, reinforces a student's sense of agency and creates opportunities to persevere until new learning emerges. As a result, students have the opportunity to apply their learning and engage in building higher-order skills. Instruction, learning experiences and assessment, including performance-based assessments, are designed to create these learning experiences.



### 16. ENSURE RESPONSIVENESS

Instructional support, learning experiences, time, resources, place, tools and technology are organized and deployed based on interests and needs of students. Many educators differentiate teaching and learning strategies in order to help students access content more readily. In a quality competency-based school, differentiation goes beyond accessing content to adjusting pace, format and medium so that the prerequisite skills are mastered. These adjustments take into consideration a student's emotional and academic development (zone of proximal development).



## B. Designing a Competency-Based System for Equity<sup>23</sup>

The vision for educational equity is a fair, and just system where every learner, students and teachers alike, are thriving. In order to realize educational equity, we must openly acknowledge and then overcome the history of bigotry, discrimination, and oppression that has shaped communities and institutions, including our K-12 education system, and sadly continues to do so today. Inequity is often referred to as a cause of the tremendous educational disparities in achievement and attainment we see today. However, some also refer to inequity to describe the persistent unfairness of outcomes. For three centuries, advocates have demanded and organized to remove barriers for segments of our society — by gender, by color of skin, by language and for those with a disability — in pursuit of more equal resources, access and outcomes. While more equal resources and greater access remain necessary goals, these are inadequate to realize more equal opportunities for students. For that, a focus upon equity strategies, strategies that will produce greater fairness, is necessary. With so many different perspectives about equity, a discussion requires us to start by unpacking what equity means to ensure we are not talking past each other.

The National Equity Project defines educational equity as<sup>24</sup>:

*Educational equity means that each child receives what he or she needs to develop to his or her full academic and social potential.*

*Working toward equity in schools involves:*

- Ensuring equally high outcomes for all participants in our educational system; removing the predictability of success or failures that currently correlates with any social or cultural factor;
- Interrupting inequitable practices, examining biases, and creating inclusive multicultural school environments for adults and children; and
- Discovering and cultivating the unique gifts, talents and interests that every human possesses.

Equally high outcomes, removing the predictability of success or failure, interrupting inequitable practices and cultivating students' unique gifts make up the multi-pronged strategies that can guide communities, states, districts, schools and each of us towards educational equity. Please note, referring to students' "potential" runs the risk of reinforcing a fixed mindset or notions that students have a predetermined amount of potential, some having more or less than others. Alternatively, "potential" can be understood in a more aspirational way, pushing us to look beyond what students have accomplished to date to focus instead on what more is possible. It is not for educators to determine potential but to help students discover and reach their potential.

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*It is not for educators to determine potential, but to help students discover and reach their potential.*

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Having a common set of shared and ambitious expectations for all students is critical to equity, but it isn't enough. We posit that each student's "potential" must include the set of common expectations for students described earlier in this paper as prepared for college, career, and life. However, each student's potential will be unique and goes beyond these shared expectations. Each student's potential is a reflection of their unique passions, interests, talents and experiences. Equity pushes us to move beyond simply holding different students to a shared set of expectations towards understanding that each student approaches those expectations with a different set of personal experiences, skills and identities. Understanding a student's individual "potential" is an important concept to unpack and a powerful starting point for discussions within each school community. Done well, these conversations drive equity by internalizing a shared understanding and commitment to equity.

Equity also requires us to recognize that students are asked to achieve similar outcomes within a broader set of social and historical contexts. It is possible to consider this as a continuum or stages of development in the journey towards educational equity. Initially, the focus was on creating greater access so that the doors of the schoolhouse were open to all students. It then became clear that access alone while remaining separate would never be equal and that some children were privileged with more resources than others. Thus, the focus shifted towards integration, inclusion, and a focus upon equality. In the struggle for equality, advocates fought for the provision of the same level of resources and the same pathways to academic and postsecondary outcomes. These goals remain unrealized today and there is still much work to be done to provide meaningful access to equal resources and pathways.

High quality, competency-based education starts with a deep commitment to equity by leadership—school board, superintendents, and principals—that all students can and should learn. Leadership drives a community conversation that ensures equity is at the forefront.

Over the past twenty years, a new understanding of what we envision for a fair and equitable education system has evolved. We have come to recognize that equality in terms of providing the same resources or educational experiences is not enough. Our goal has shifted beyond equality to notions of equity and fairness that demand personalization and responsiveness to students as individuals. Educational equity is a vision of fairness in which all students, each and every student, are fully supported along their personal learning pathways in reaching high educational expectations and developing to their fullest potential. In order for students to have a fair shot at reaching the educational outcomes implied by the concept of readiness for college and careers, we must recognize and shape educational strategies that take into context the economic and racial disparity that shapes communities across our country.

Educational equity promises that every student will reach their potential by designing an educational system that responds to students to ensure they are building the skills they will need in college, careers and life. Realizing this promise requires us to start with the belief that the same high expectations — preparation for college, career and life — are possible for all students. From here, equitable systems actively seek to identify a student's unique set of experiences, strengths, needs, identities and passions, and use these as assets in the work of helping students to meet these expectations. Thus, educational systems need to have the capacity to meet students where they are: schools need to have flexibility in order to provide the support necessary for students to achieve success.

An equitable educational system starts with a commitment to quality and excellence, is designed to personalize learning and embeds strong equity strategies into the core of the organization. Equity reflects a commitment to ensuring that historically underserved students are successful by embracing a mantra of: "How should the system adapt and respond in order to engage and empower students to learn, progress and achieve mastery? What will it take to ensure that students who are not making adequate progress are moving forward?" Equal access and equal resources are necessary but insufficient to realize this vision for equity. Equity requires us to go further to create a more adaptive system that supports a personalized approach that meets students where they are, and leverages student agency, motivation and engagement to optimize a school's pedagogical approach so that every student has a meaningful pathway to college and career readiness and beyond.

While competency-based education structures are designed in a way that facilitate equity and excellence, inequity can still seep into a system. A deep and vigilant commitment to equity is required to overcome bias and inequitable patterns. Given these concerns that inequitable patterns might undermine efforts to create powerful competency-based systems, the question facing us as a field is: What are the necessary equity strategies to ensure student success, and how do we monitor their effectiveness in a personalized, competency-based system?

## Equity Framework

The following offers a framework for how states, districts and schools can develop an equity agenda within their competency-based systems. Within nine domains, reflection questions serve to generate discussion, guide reflection and trigger capacity building. From there, the framework offers a set of principles that can be use to create and embed equity strategies within personalized, competency-based systems.

### EQUITY PRINCIPLES

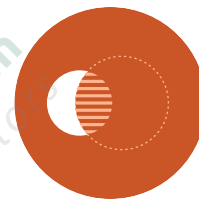
In order to seek educational equity districts and schools will...



*Nurture Strong Culture of Learning and Inclusivity*



*Support Students in Building Skills for Agency*



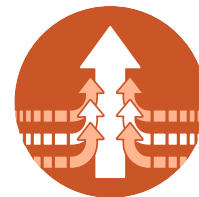
*Establish Transparency About Learning, Progress and Pace*



*Engage Community in Shaping New Definitions of Success and Graduation Outcomes*



*Develop Shared Pedagogical Philosophy Based on Learning Sciences*



*Ensure Consistency of Expectations and Understanding of 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*

## PRINCIPLES



Culture

## REFLECTION QUESTIONS

***In what ways does the school culture promote a growth mindset, build trust and inclusivity?***

## EQUITY PRINCIPLES

### ***Nurture Strong Culture of Learning and Inclusivity:***

The culture of schools is designed so that all students and adults, especially the most marginalized, feel safe and respected and can build trusting relationships that enable direct and productive feedback. Adults regularly experience and share their own learning and model a growth mindset for students. Students unfamiliar with a school's dominant culture may lack fluency in the social cues and language that educators use to interpret students' readiness for learning. Acknowledging the existence of a dominant culture is important in order to open dialogue regarding student communication and engagement.

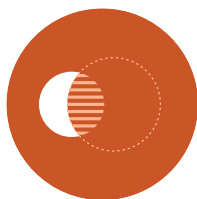


Student Agency

***In what ways are students coached in and have opportunities to practice and apply the lifelong skills they need to develop agency?***

### ***Support Students in Building Skills for Agency:***

Schools provide feedback, coaching and opportunities for students to build the skills and mindsets needed to develop intrinsic motivation and become lifelong learners. Culture fosters an environment where students have multiple intentional opportunities to practice habits of success and social-emotional skills.



Transparency

***What systems, practices and routines are in place so that students understand their own learning path and how to advance? How do schools know and ensure all students are growing at a meaningful pace that guarantees they graduate prepared for college, career and life?***

### ***Establish Transparency About Learning, Progress and Pace:***

The cycle of learning is explicit and transparent so that students know what they need to learn, what proficiency looks like, how they will be assessed, and how they are progressing. Teachers work together to use data on student progress to respond to students and to inform their professional learning.

## PRINCIPLES



### Definitions of Student Success

## REFLECTION QUESTIONS

*Has the school community developed a shared definition of student success? What are the expectations for the skills, knowledge and traits that students will need for lifelong learning and preparation for college and career? How is the school designed to help students build the necessary knowledge, skills and habits?*

## EQUITY PRINCIPLES

### *Engage Community in Shaping New Definitions of Success and Graduation*

**Outcomes:** Districts and schools engage the community in creating a shared vision of what students need to know and be able to do upon graduation. Districts and schools are designed around a well-rounded set of competencies that students master upon graduation including academic knowledge and skills, lifelong learning, and higher order skills. The culture of learning ensures that definitions of student success (beyond college and career readiness) apply to all students and are internalized by adults and students.

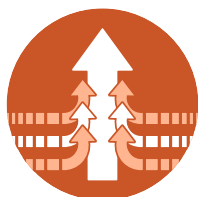


### Pedagogical Philosophy

*To what degree is there a shared understanding of effective instruction and assessment based on the learning sciences? In what way are teachers supported in differentiating and personalizing learning in order for students to reach common, rigorous educational outcomes and discover talents and interests?*

### *Develop Shared Pedagogical Philosophy Based on Learning Sciences*

Districts and schools are designed around shared and explicit pedagogical philosophies based on research in engagement, motivation, child/ youth development, neuroscience and learning sciences. Important pedagogical approaches to include are Universal Design for Learning, literacy across the curriculum, culturally responsive strategies and promoting student agency.



### Consistency and Reliability

*What types of processes are in place to support teachers in building a shared understanding of proficiency of academic skills, social emotional skills and habits of success? Is the process of determining proficiency calibrated, consistent and fair?*

### *Ensure Consistency of Expectations and Understanding of Proficiency*

The expectations of the learning objectives and rigor are calibrated with all students being held to the same high standards, including demonstrating mastery and fluency in the foundational skills.



## PRINCIPLES



**Pace and Progress**

## REFLECTION QUESTIONS

***What processes and strategies are used by districts and schools to measure and monitor student growth based on student performance levels? How does the school monitor and respond when student pace is slower than anticipated within the time-bound targets? What types of strategies are in place to reinforce a focus on learning and growth given the grade-level focus of state accountability systems?***

## EQUITY PRINCIPLES

***Monitor and Respond to Student Progress, Proficiency and Pace:*** Individual student pace and progress are closely monitored, as are trends over time by individuals, groups and cohorts. Student progress is measured by growth along a learning continuum with personalized strategies for setting the pace of learning towards graduation. Supports are in place that ensure students reach proficiency and make progress.



**Adult Mindsets**

***In what ways are educators supported in their professional learning that is linked to student growth? How are adult beliefs and actions examined in an ongoing way that identifies bias and supports empathy, self-awareness and inclusivity?***

***Invest in Adult Mindsets, Knowledge and Skills:*** Leadership values and supports the ongoing growth of adults. Trust is actively nurtured. Structures provide ongoing opportunities for nurturing growth mindset and self-reflection. Deepening awareness and addressing bias are critical to ensure that adults have empathy for students and are open to multiple strategies for co-creating their learning paths. Teachers are supported in building their professional skills in the learning sciences, instructional strategies, knowledge of the domains, learning progressions and equity strategies including cultural responsiveness and Universal Design for Learning.



## PRINCIPLES



Continuous Improvement

## REFLECTION QUESTIONS

***What are the formal continuous improvement processes that use data and feedback to support student learning, improve instruction, inform teacher professional development and drive school and district improvement? In what way are they used to uncover bias, increase the use of effective strategies to engage, motivate and help students learn, and ensure that historically underserved students are learning and growing?***

## EQUITY PRINCIPLES

### ***Respond and Adapt to Students Using Continuous Improvement Processes:***

Districts and schools use data on student progress to create agile organizations that can respond to student needs, drive continuous improvement, and ensure that students are successfully reaching proficiency each step of the way. Data can also be used to seek out inequitable practices, identify and examine bias and challenge predictability of success based on demographic factors.

It is important to remember that most, if not all, equity issues and inequitable patterns are also problematic in the traditional system. The difference is that in competency-based districts and schools, these challenges become transparent and leaders and educators take responsibility for addressing them. Why? Because competency-based education seeks to embed accountability at all levels so that educators can meet students where they are and districts and schools operate as learning organizations that continue to adapt and improve.





## C. Meeting Students Where They Are So That Everyone Masters Learning<sup>25</sup>

If a competency-based system is designed to ensure that every student is learning and making progress towards the skills and knowledge for lifelong learning and preparation for college and careers, what do schools need to do in order for this to happen? They are going to have to learn how to meet students where they are — not just academically but in terms of their full development.<sup>26</sup> This means knowing where students are in terms of academic performance levels, cultivating a growth mindset and social-emotional skills that shape how well students can stay engaged when learning is challenging, and cultivating the interests and topics that will ignite their motivation. Using a holistic lens to understand where students are and how to help them grow is clearly a complex process. The ideas offered here are insights into this important activity and will require continued exploration and research.

The approach typically used in traditional systems is focused on exposing students to academic content with the content and duration of exposure determined by a student's grade-level subject and at a pace designed to cover everything by end of year. As described earlier, students are then passed on to the next grade level regardless if they learned the content or not. As a result, students in a traditional system have vastly differing skills, knowledge of the content, and varied abilities to apply that knowledge in different contexts.

There is ample evidence that under these circumstances, the odds are stacked against significant numbers of students being able to access and master what they need when they need it because the learning experiences available to students may — but often do not — fall inside their zone of proximal development (ZPD).<sup>27</sup> Students with skills above grade level may also disengage from boredom when they aren't able to work in their ZPD. For example, the "reading" ZPD for an eleven-year-old who struggles with decoding is radically different from one who is flying through a Shakespearean play. Yet, they might both be in a sixth grade ELA class which is focused on summarizing a sixth grade text. In this way, their efforts to develop as readers becomes artificially constrained by the classroom learning experiences available to them: neither the student who needs to "reach back" to learn missed skills or content, nor the student who can "reach forward" due to already-mastered skills and knowledge, have access to the support they need within their ZPD.

The notion of being on, above or below "grade level" is an old paradigm that serves, not the learner, but a system designed to efficiently sort and "batch process" students. All students are somewhere on their learning and development trajectory — or multiple trajectories — toward developing the skills, knowledge and dispositions that are essential for the transition to adulthood. Where each student is, at any moment, on their learning trajectory is just as much a function of their complex needs today as it is about the degree to which those needs have been met in previous years of life and schooling, and in other contexts of learning. The challenge for all of us is to identify where individual students are on the trajectory, and address their needs, passions and interests in "real time."

In order to meet students where they are, districts and schools need to create the culture, the structure, and build a shared pedagogical philosophy that will enable much stronger relationships and much greater responsiveness than the traditional system was designed. The bureaucratic culture that emphasizes efficiency must be transformed into one that emphasizes learning and inclusivity. The structure must shift from focusing on time-based credits to valuable measures of student learning that take into consideration depth of knowledge, skills and learning how to learn. This requires transparent learning continuums that allow educators to understand where students are rather than deliver a curriculum based on their age. Finally, classroom management, instruction, assessment and the design of experiences that will help students learn and demonstrate their learning will need to take into consideration student agency, knowledge of the academic domains and the research on learning progressions, and strong assessment literacy.

This section on understanding how to meet students and respond to where they are is organized around three questions:

- How do we know where students are academically, emotionally, developmentally and experientially?
- What do we do, once we know?
- Which strategies help us navigate systemic constraints to do the things we need to do?

## Part I: How Do We Know Where Students Are?

Understanding where students are requires honesty and objectivity. With that in mind, let's start first by challenging some key assumptions within the current traditional system:

Assumption	Challenge
<b>#1:</b> Content knowledge is an appropriate measure of learning and the accumulation of specific content knowledge and skills is sufficient to prepare learners to succeed in life.	Content knowledge is necessary but insufficient to prepare students for success in college, career and life. The current economy places a significant value upon the ability to solve complex problems that have not been encountered before. Instructional models that emphasize content coverage privilege speed, memorization and basic understanding (Bloom's lower levels of thinking <sup>28</sup> ). This severely limits students' capacity to prepare for the workload of college. <sup>29</sup> In contrast, deep study of ideas and concepts supports students in developing analytic skills and academic practices that the learning sciences suggests will allow them to successfully tackle challenging college and career tasks.
<b>#2:</b> Age-based approaches are fair and valid.	Effectively meeting students where they are requires creating learning science-informed pathways that support students in achieving mastery of the same high standards. <sup>30</sup> Rather than coupling the standards with specific ages or grades, they are coupled with learning progressions <sup>31</sup> that provide guidance to organizing learning for students within their zone of proximal development, regardless of their age. <sup>32</sup> Progressions can serve as powerful tools for identifying where students are, clarifying learning targets, and charting a student's unique developmental path toward college and career readiness. However, the performance levels described in these progressions must be decoupled from traditional age-based grade levels.
<b>#3:</b> Teachers are the "owners" of learning continuums, and solely responsible for using student performance data to make decisions about student's next steps.	High-quality competency-based education systems are founded in a belief that student agency is both a tool as well as a critical skill for students to practice and master. To that end, students become active partners and co-creators of their learning pathways by having opportunities for voice and choice about how they learn and how they demonstrate their learning.

Next, a range of structural, pedagogical and relational shifts that are essential to identifying where students are in a learner-centered, equity-oriented model are described. These shifts are organized around three domains:

- First, internalizing and enacting a strengths-based, culturally responsive, inclusive and relationship-centered approach to knowing and caring for our students;
- Second, creating the equity-oriented structures that enable educators to know students and where they are; and
- Third, implementing a set of key practices that enable teachers-as-researchers to generate a rich, actionable stream of data to help them engage their students in identifying where they are and how to advance their learning.

### **Domain 1: Internalizing and enacting a strengths-based, culturally responsive, inclusive and relationship-centered approach to knowing and caring for our students.**

Our goals for learners in a high-quality competency-based system go beyond the acquisition and ability to apply knowledge and skills to include self-efficacy and agency; as a result we must attend to knowing who are our students, in terms of both cognitive and non-cognitive circumstances. Knowing our students requires us to acknowledge and understand that students exist in dynamic contexts that mediate their lives and daily experiences, both inside out and outside of school. At the heart of an effective learner relationship is the primacy of a strengths-based approach to cultural competence,<sup>33</sup> cultural relevance,<sup>34</sup> and “funds of knowledge”<sup>35</sup> in relation to working with communities. While cultural, social and economic challenges are real, and cast long shadows on our lives, the strength of communities and the strengths of individual students must sit at the heart of our thinking with regard to competency-based models and pedagogical practice. Creating an equitable, competency-based learning environment for all students requires adults to:

- Deepen our awareness and understanding of the impacts, for example, of culture, privilege, race and racial stress,<sup>36</sup> as well as poverty<sup>37</sup> and immigration,<sup>38</sup> as they are experienced by learners and adults.<sup>39</sup> Knowing our students means working to deepen our awareness of these complex factors — first in our own lives and also in the lives of our students — and constructing learning experiences and communities that meet students where they are, at the intersection of their complex identities and contexts.
- Cultivate relationships with students that are characterized by an “ethic of care.”<sup>40</sup> This moves the work of identifying where students are beyond a purely diagnostic practice so that we also notice, acknowledge and respond positively to students’ feelings and desires.

### **Domain 2: Creating equity-oriented structures that enable educators to know students and where they are.**

As discussed earlier, structures in a high-quality competency-based system create the conditions for deep, purposeful and preparatory learning that is accessible to all learners. The four structural shifts discussed below are systems-level changes, although many schools operating with autonomy may be positioned to enact some or all of these changes.

- **Hone indicators and measures for student learning to shift from credit acquisition to depth of knowledge, skills and dispositions.** This means distilling our academic goals to a set of essential academic and lifelong learning competencies (in many schools and districts, these are coupled with developmental benchmarks or competencies to track physical and emotional development, particularly in younger children). Each competency is accompanied by a student-facing learning continuum that articulates what proficiency looks like at each performance level on the path to mastery. These skill-based progressions or continua become central tools to support instruction, inform student feedback, guide student self-monitoring, and help identify when students are ready to advance to the next level.

- **Move from cohort-based grade levels to individual real-time progression through cognitive and non-cognitive mastery levels.** Schools all over the world have implemented these “stage, not age” approaches. By contrast, competency-based systems in the the United States typically push up against policy that assumes age-based groupings. Despite this push, there are schools in the United States that have adopted this “stage, not age” approach. In some schools, this takes the form of multi-age “performance bands” (multiple years within which students can become competent in identified content and skills) as a way to organize capacity to meet students where they are.
- **Personalize student pathways, reflecting an understanding of each student as an individual including their unique needs, assets and aspirations to inform selection, sequence and pace of learning.** This is not an attempt to “lower” standards or track students, but rather to acknowledge that learners enter classrooms with a range of skills, and that learning itself is not a linear process. A personalized pathway accommodates and appropriately supports the “jaggedness” of each learner, while holding the end goals fixed.
- **Strengthen structures currently in place that undermine strong relationship-building between learners and adults.** In most traditional elementary schools, students are able to develop relationships with their teacher only to move classrooms and teachers each year. In high schools, sustained relationships are often only supported through a “homeroom” or advisory model<sup>41</sup> (though even the composition of these groups can be changed year to year). These structures may cut short the time needed to deepen relationships. At Noble High School,<sup>42</sup> a human capital strategy is purposefully designed to support long-term relationship building as part of their academic model. Specifically, interdisciplinary teaching teams stay with the same student cohort throughout their entire high school experience, a structure that they have designed to optimize their ability to provide timely, differentiated supports to all students.

**Domain 3: Implementing a set of key instructional practices that enable teachers-as-researchers to generate a rich, actionable stream of data to help them engage their students about where they are and how to advance their learning.**

Once we know our students and where they are, acting upon that information requires teachers to become action researchers and facilitators for learning. Practitioner research involves constantly posing questions about who are our students, where are they, what strengths can we build upon, and how to most effectively identify and respond to the next step in their learning. On a daily basis, educators in learner-centered classrooms put into practice the following pedagogical strategies designed to help identify where students are:

- **Assessment is treated as a learning experience: an opportunity to take stock of what one has learned, synthesize ideas and apply them to new contexts.** Formative assessments are available in daily, moment-by-moment occurrences: conferences, peer feedback, observations, and self-reporting cues, as well as oral or written forms. These embedded opportunities are often coupled with more formal formative assessment opportunities that provide students with additional learning moments and provide both teachers and students with critical data about student understanding.<sup>43</sup>
- **Student discourse offers a rich, often overlooked, stream of data for diagnosing student needs and gauging understanding in real time.** The more teachers can observe students as they make meaning of new information, draw connections to their existing schema,<sup>44</sup> and identify gaps or misconceptions, the more promptly teachers can seize the opportunity for providing responsive, tailored supports. Expanding productive student talk also reduces barriers that struggling writers often face when asked to provide written responses to show their thinking or ability to synthesize ideas.

- **Students co-own the process of identifying where they are and in shaping the path ahead, and practice student agency in their own learning journey.** Students should have the opportunity to access and interpret their data in real time, participate fully in the planning and decision-making process for their learning pathway, and be encouraged to reflect on past decisions and outcomes. This participation allows students to further their learning and use metacognition to inform future decisions.
- **Educators create ongoing metacognitive and reflective experiences for learners in order to position them as developing experts.** As John Dewey reminds us, “We do not learn from experience. We learn from reflecting on experience.”<sup>45</sup> One of the critical tools that supports students in becoming independent, self-regulating learners is the development of metacognitive skills: the capacity to monitor their learning, identify the limits of their knowledge or ability, and identify and use strategies and tools to expand their capacity.<sup>46</sup> This is one of the critical distinctions between novice and expert learners. The stronger students’ metacognitive skills are, the stronger their capacity to “know where they are” without depending on teachers or others for this information. These pedagogical shifts begin the work of creating learning spaces in which both teachers and students know “where they are” and can make informed decisions about how to move forward.
- **The label “failing students” is replaced with terms that describe students’ progress and skills (rather than their character).** Students’ skills and knowledge are described as “emerging,” “proficient,” “college-ready,” etc. as reference points for where students are. In a true competency-based system, students cannot fail.

## Part II: What Do We Do, Once We Know?

The field of education is in the midst of a dynamic process of innovation and redesign based on a stronger understanding of the learning sciences, maturation of a field of knowledge about how to best engage, motivate and build student agency, and how to use technology effectively within schools. For these reasons the field is in the nascent stages of defining, in a concrete and comprehensive way, the distinguishing pedagogical practices that support a personalized approach to learning as compared to the one-size-fits-all of the traditional system.

*Meeting students where they necessitates adoption of an approach that accounts for where students are in the zone of proximal development with regard to specific cognitive skills, as well as holistically, in terms of physical, emotional and metacognitive development.*

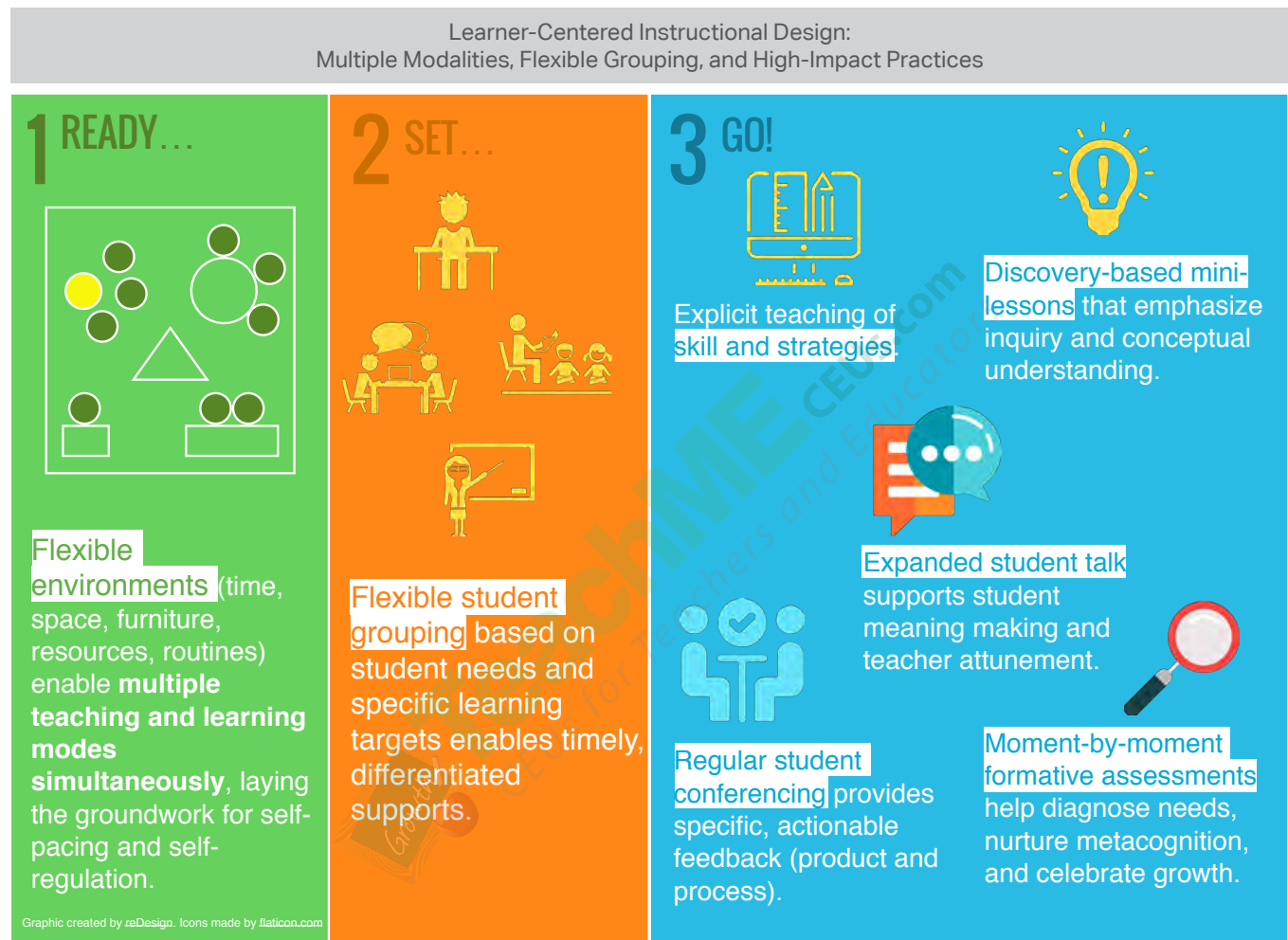
In this section, examples are offered to help practitioners operationalize a personalized approach in the academic realm. In mature competency-based schools, learners are active co-constructors of knowledge, rather than passive consumers of content. Learning is visibly and authentically connected to meaningful and important outcomes. Inquiry drives the learning process, as it does in the world beyond school. And finally, learning environments and experiences are purposefully designed to nurture the meta-cognitive, behavioral and motivational attributes of engaged, autonomous and adaptive learners.<sup>47</sup> It is equally important for teachers to be thinking about where students are in terms of their ability as lifelong learners, including the ability to tap into a growth mindset, their social emotional skills, their metacognitive skills and the strength of their habits of success.

Competency-based schools that consistently and effectively meet students where they are have some common features. Below we offer a brief description of these features along with frequently used examples. More detail about these features and how they are used can be found in the report *Meeting Students Where They Are*.<sup>48</sup> These are not exhaustive but offered to show how these features can be operationalized.

### Common Feature 1: Learning Centered Classrooms Support Multiple Modalities

Students have access to multiple formats for learning. The physical organization of learning environments is flexible, allowing students to select the format that best meets their needs and is engaging. Classrooms may extend to outside of a school building. The teacher and student co-design the learning experience to ensure learning opportunities are maximized.

The graphic offers an illustration of this first element:



### Common Feature #2: Responsive Facilitation of Learning in Action

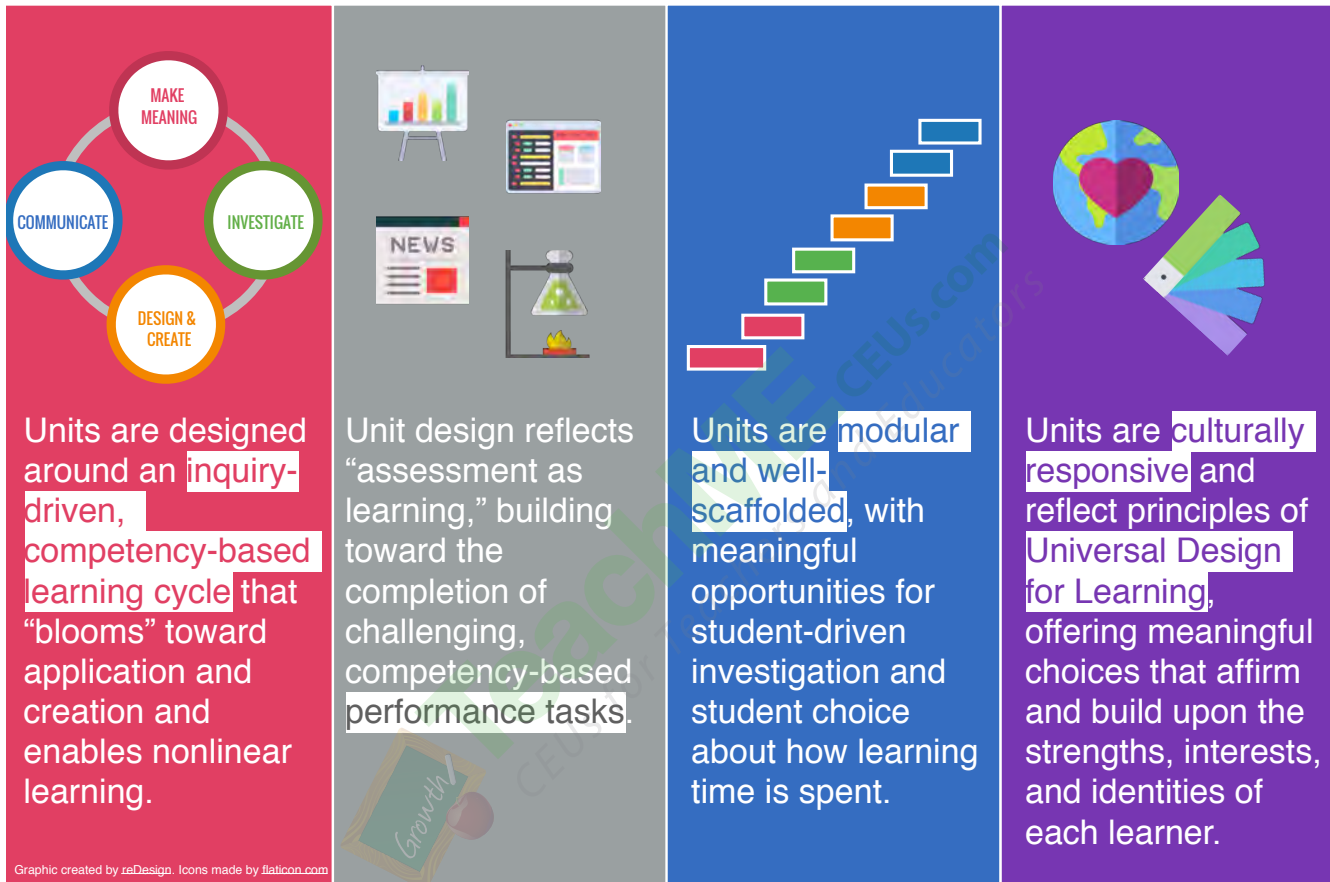
Informed by the learning sciences, teachers have multiple strategies available for students to engage with the content and demonstrate what they have learned. Teachers are primarily facilitators of learning rather than the primary source of content expertise. Learning in responsive classrooms has two equally important goals — acquisition of knowledge and honing lifelong learning skills.



### Common Feature #3: Learning Experiences that Foster Engagement, Access and Rigor

Learner-centered models that meet students where they are are designed to foster curiosity, agency and competence for all learners. Learning experiences reflect a commitment to addressing the needs, passions and experiences of all learners. In high-quality competency-based models, schools will be informed by the principles of Universal Design for Learning, cultural responsiveness and student agency.

#### Design Elements of Competency-based Units of Study: Engagement, Access, Rigor



## Part III: Strategies to Navigate System Constraints

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Meeting students where they are requires strategies to reimagine and redesign our school models around the needs of the individual, rather than delivery of curriculum. Currently, there is something of an accountability paradox at play in our educational system. Namely, the very accountability system that led to much greater transparency about the performance of the education system and its inequity is also holding the traditional system that produces inequity in place. Despite this paradox, there are six critical, interlocking structures that will enable school models to become more effectively oriented around learner needs and outcomes rather than only focusing on operational efficiencies:

- Modularizing learning experiences and making them available to all students creates the opportunity for students to both “reach back” to address gaps in skills and knowledge, and to reach “over” or “forward” to pursue passions or deepen learning.
- Designing assessment strategies that are backwards-mapped from college- and career-readiness will make it possible for schools and systems to ensure that students have ample opportunities to practice and master core competencies.
- Personalizing students’ learning paths allows both students and teachers to explore learning experiences in ways that meet students within their zone of proximal development, providing timely and differentiated supports as a matter of daily practice.
- Creating strategies for learning that foster student agency, motivation and engagement ensure that supports avoid becoming enablers that result in limiting student growth and progress.
- Developing flexible schedules and environments support student choices about how to use their learning time, while also creating critical opportunities for teachers to provide interventions, feedback and personalized learning experiences.
- Investing in robust learning management and tracking systems provide young people, teachers and families with real-time access to both learning experiences and rich data regarding progress.<sup>49</sup>

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Competency-based learning is not about learning skills instead of content; it’s about learning critical skills that empower learners to seek out and engage with content more deeply, meaningfully, and productively. This requires broader engagement with content. Students must be able to access content in multiple formats and modes. This both reinforces the relevance of the content but also provides opportunity for students to deepen their knowledge by applying it in multiple contexts. At the same time, it hones students’ understanding of themselves as learners as they “try on” different learning styles and formats. Done well, the result is not a fixed learner profile but the self-awareness that there are multiple ways to learn and multiple uses for what is learned.



## D. Taking the Long View on Systems Change and Policy to Support Competency Education<sup>50</sup>

This section surfaces ideas that state policy needs to address in the long-term to create the conditions for a transformation to competency-based education systems designed to ensure equity so all students can be truly ready for success. Our intent is to push current thinking beyond the assumptions that perpetuate root causes of inequity and the structural issues that perpetuate injustice. We are focusing on a strategy for policy to support systems change over the long haul toward competency-based systems that ensure mastery for all students and equity for all. We hope to inspire new ideas and launch dialogue among communities and state policy leaders.

### Threshold Concepts: Key Issues for Policy to Tackle for the Long-Term

Threshold concepts are important concepts for policymakers to understand so that they drive better policy and address structural gaps in our education system. Threshold concepts are “core concepts, that once understood, are needed to transform a given subject.”<sup>51</sup> They can help us think differently about what is possible in an equitable future education system where all students succeed, and how to address deep-seated systems design flaws across K-12 education. Threshold concepts are not policy issues, but they deeply impact policy. In this section, we discuss our thinking around the core, or threshold concepts, that state policymakers might think about addressing for a long-term, sustainable shift to personalized, competency-based learning.

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Threshold concepts to understand before we address action steps for policy-making are:

- Certifying learning,
- Assessment literacy,
- Pedagogical innovations based on learning sciences, and
- Meeting students where they are.

#### Threshold Concept: Certifying Learning

Unpacking what a high school diploma means and how we might re-envision this qualification is crucial to inform short-term policy conversations. The United States has significantly improved high school graduation rates over the past decade. However, less attention has been given to what this credential signifies. In far too many cases, we are not being honest with our high school graduates when we tell them that their diploma means they are ready for the next step. Students who require remediation in college courses are less likely to persist and attain a postsecondary degree. Those who directly enter the workforce without basic communication, problem solving, collaboration skills, and habits of success, may face under-employment or even unemployment.

"Curriculum redesign" is a common concept emerging in global education systems which addresses the question, "What do our students need to know and be able to do to succeed in the 21st Century?" – especially with respect to a more holistic notion of student success for the future. Whether a community conversation or a statewide conversation, the idea of engaging communities and families around what students need to know and be able to do is increasingly important.

From Asia to Europe, from Australia and New Zealand, to Africa and India, and across the provinces of Canada — there is a deep and complex debate taking hold in communities around what students need to know and be able to do. In the United States, conversations are also happening around what students need to be prepared regarding academic standards and graduation requirements. However, these conversations are all too often based on limited assumptions about student success centered around content proficiency. States can begin now to engage districts and communities around what students need to master for true preparedness, and begin to rethink outdated accountability models. We need to think about redesigning education with new models of active, inquiry-based pedagogy to move forward with more holistic, learner-centered, competency-based learning models that help students gain the knowledge and skills they need to thrive after high school graduation. Once local communities have a shared understanding of what student success looks like, they can drive state-level understanding of curriculum redesign and the implications for new accountability models, new designs for assessments, new school models and building systems capacity (and better coherence).

➤ ***Issue to Tackle: Redefining Success***

In the traditional policy context, success is defined as grade-level proficiency, primarily or perhaps even exclusively in reading and math. We need to develop new definitions of student success that reflect the full range of knowledge and skills students will need to succeed in college, career, and civic life. A new definition of success would reflect high standards and expectations, not only on academic competencies, but also on social-emotional competencies, skills and dispositions. Once local communities have a shared understanding of what student success looks like, they can build state-level understanding of the policies used to support and monitor learning, including curriculum redesign and the implications for new accountability models, ensuring all students meet high standards, multiple pathways, new designs for assessments, new school models and building systems capacity for better coherence.

➤ ***Issue to Tackle: Meaningful Qualifications***

What is the purpose of a high school diploma and what does it represent about what a student knows and can do? Competency-based systems lend themselves to providing the evidence of a student's demonstrated mastery toward a proficiency-based diploma, with rich information from learner profiles about what students know and can do.

## **Threshold Concept: Assessment Literacy**

According to the National Task Force on Assessment Education for Teachers,<sup>52</sup> "those who are assessment literate understand how to gather dependable evidence and how to use it productively to support or certify achievement.

Regardless of their level of involvement in the education process, they understand the importance of:

- Beginning assessment with a clear purpose;
- Starting with clear and specific learning target(s) to be assessed;
- Building high-quality assessments to fit this intended context;
- Communicating results in ways that assure understanding by recipients, and,
- Linking assessment and student motivation in ways that keep all students striving for academic success."

The New Zealand Ministry of Education defines assessment literacy as: “The possession of knowledge about the basic principles of sound assessment practice, including its terminology, the development and use of assessment methodologies and techniques, and familiarity with standards of quality in assessment. The primary purpose of assessment is to improve students’ learning, as both student and teacher respond to the information that it provides. Information is needed about what knowledge, understanding, or skills students need. By finding out what students currently know, understand, and can do, any gap between the two can be made apparent. Assessment is the process of gaining information about the gap, and learning is about attempts to reduce the gap.”

This idea of common expectations, and evaluating evidence against common standards and rubrics to build and evaluate comparability across schools and systems, requires significant investments in educator capacity building and collaboration to ensure consistent moderation and calibration of expectations, grading, and scoring practices across the state. The lack of assessment literacy across the system is a major blind spot. Significant capacity for assessment literacy is needed to advance new competency-based approaches and address tough issues in our current system.

Building professional educator capacity and policymakers’ understanding of assessment literacy is fundamental to shifting to personalized, competency-based systems at scale and focusing on equity. A competency-based learning system that offers personalized pathways for students to meet learning goals and learning targets requires educator capacity to evaluate student learning using multiple forms of evidence against common standards and expectations.

➤ ***Issue to Tackle: Accountability as Continuous Improvement:***

Trust — or a lack thereof — plays a silent but significant role in our current approaches to accountability. Educators may feel that accountability policies have been used as a tool to cast blame and judge intentions, rather than direct attention or build understanding. They may not trust accountability to serve as a tool for improvement. At the same time, many have come to rely upon the transparency of our accountability policies to generate urgency to address our country’s long history of inequity, and do not trust that same urgency to exist without it. These and other fears have bases in real experience. Unfortunately, they erode the trust that is critical to using accountability in proactive ways that improve the system.

High-quality competency-based systems rely upon transparent accountability models that support and empower rapid and constant improvements in learning and student growth toward success for college, career and life. Policy could catalyze accountability systems that empower all educators and schools to give students the supports they need to master the knowledge and skills necessary for success.

## **Threshold Concept: Pedagogical Innovations Based on Learning Sciences**

Learning sciences are an important reference point in designing instructional models for equity. Learning sciences also consider how students learn best, what feeds intrinsic motivation and the experience of personal success. A school redesign informed by learning sciences puts student success at its center.

It incorporates youth development theory, culturally responsive teaching, and evidence-based approaches. Although policy does not (and should not) dictate pedagogy, policymakers should understand the importance of the learning sciences and their ability to transform student learning with innovative new models. Policymakers should consider how current accountability, assessment and teacher development systems might hinder the development of new learning models and innovative pedagogies.

### **Threshold Concept: Meeting Students Where they Are**

Similar to pedagogy, schools and districts have local discretion for designing and building adaptive learning models and systems that meet students where they are. However, policy plays an important role in setting the context for those systems. When different expectations are held for different students, inequity becomes the logical outcome. When those disparate expectations are coupled with inadequate or inappropriate supports, the disparities grow larger, wider and deeper.

Our country's history of inequity in education among student groups drives, to a significant extent, the degree to which we need to take greater care that measures are fair and have common meaning among students, schools and districts.<sup>53</sup> This drives the prevalence of standardized tests in our country. As a result, the concept of assessment is often broadly conflated with the end-of-year, statewide, summative accountability tests. To be clear, though intricately linked to each other in today's policy context, accountability and assessment are two separate concepts.

Our current education policies are typically designed with an assumption rooted in traditional models of education that learning should happen through one-size-fits-all, large-group, direct instruction of grade-level content each day. Meeting students where they are requires learner-centered environments that are organized around mastery-based learning progressions. It means opportunities for in-depth teaching and learning based on each student's goals and needs and providing extended learning opportunities and supports with flexibility. Policy needs to anticipate this structure or run the risk of impeding its success or even its existence. Meeting kids where they are will catalyze new, sometimes radical approaches to organizing learning environments that challenge traditional schedules, course structures, pedagogies and grade levels. It is possible for students to begin below grade level and exceed one grade level of growth in a year. Consider the implications for students achieving standards above the constraints of the current age-based grade-level boundaries.

#### **➤ Issue to Tackle: Teacher Professional Judgment**

Responsive teaching that personalizes instruction to meet students where they are requires highly skilled professionals that exercise professional judgement about student learning. This stands in contrast to what too many teachers experience today, which is a push to standardize instruction across schools and districts and minimize teacher professional judgement. We should be driving toward a system that trusts teachers to exercise professional judgement about student learning, in which teachers are empowered and have the professional expertise and systemic supports to make valid and reliable determinations of student mastery.

This shift has implications not just for teacher preparation but also for the professional growth experience of educators throughout their careers.

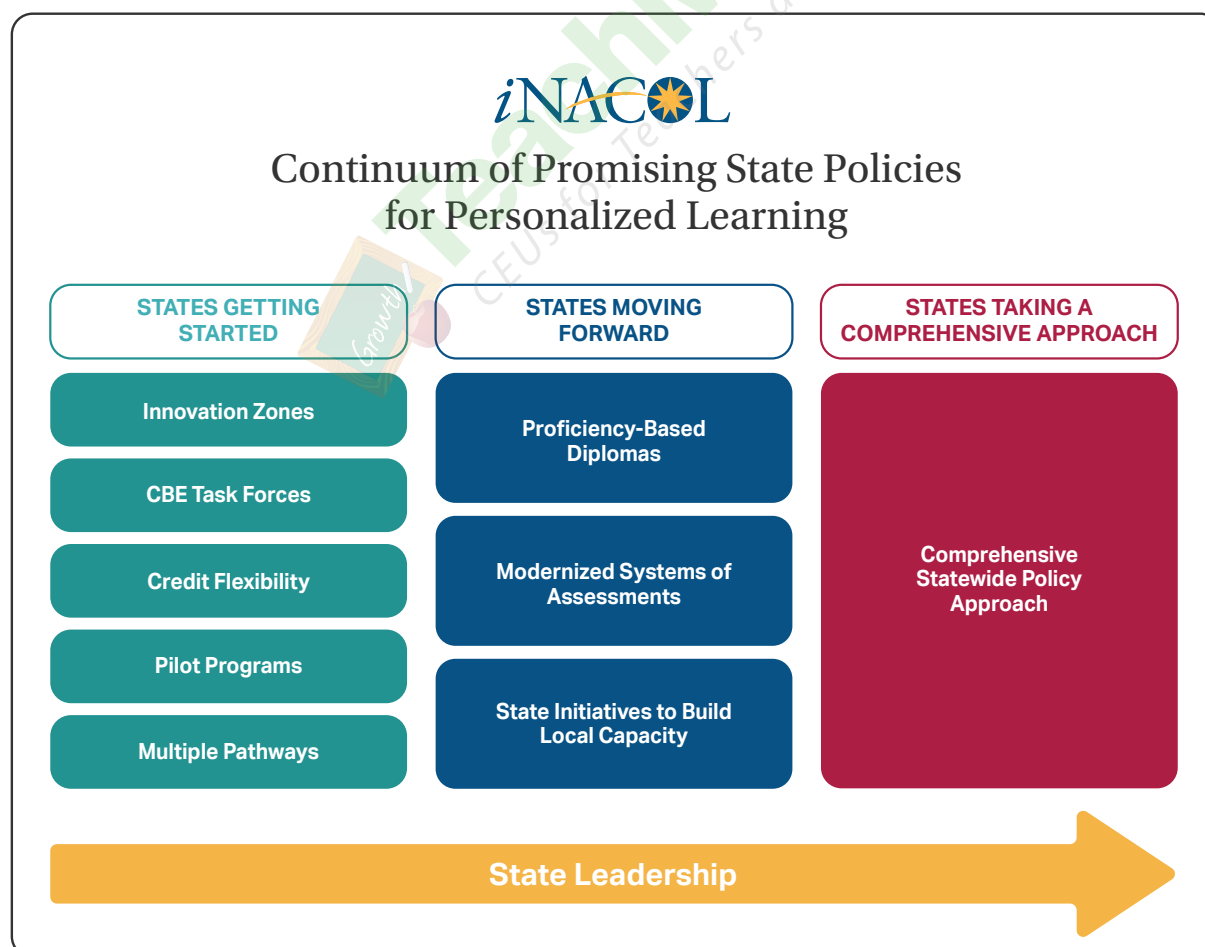
➤ **Issue to Tackle: Developing Capacity to Lead Change for the Long-Term**

The vision for students in a competency-based education system is to empower them to lead their own trajectory to success in college, career and life. We need to actively seek out the leaders already among us, at all levels. At the same time, we will need to invest in human capital and prepare leaders who have the capacity to transform learning environments and systems. We need leaders at all levels who can lead the change together.

## Ways That States Are Beginning the Shift to Competency-Based Education

While there is much work to do, there are also some notable lessons from the field. There are many different entry points for policymakers wishing to enable the shift to a more personalized, competency-based K-12 education system in their state. States that do not yet have any enabling policies in place may wish to take one or two incremental, initial steps to create space for new learning models, while a state that already has made some progress may be contemplating some bolder, more comprehensive steps toward transformation. We will not attempt to thoroughly discuss each entry point in this paper, however, we will highlight the promising policies most states are starting with in their journeys. The iNACOL report, *Promising State Policies for Personalized Learning*,<sup>54</sup> goes into each of these policy levers, with examples of specific policies and practices that are active in different states.

The graphic below summarizes the different entry points that policymakers could discuss to catalyze transformation of K-12 education in their state, with varying levels of state leadership:





## Looking Ahead: Opportunities to Lead

For those policymakers who choose to lead this transformation, we offer the following issues as areas ripe for change. Each merits more discussion before offering potential solutions; however, we believe they are important to identify now and offer ideas for first steps. These issues are foundational and, if addressed effectively, go a long ways towards creating the conditions for high-quality competency-based systems to seed and thrive.

### Inequitable Funding Systems and Formulas as well as Resource Allocation

One driver of inequity is the disparity in school resources that persists across our public education system. The structures that drive or even permit these disparities to exist are encoded in state and district policies. School finance formulas, state funding mechanisms, local policies and community contributions create significant differences in resources at the school level that are often unrelated to differences in need. Equity in school funding means that resource allocation — financial or otherwise — enables each local community the capacity to do what it takes to ensure every student can succeed. Some questions that merit attention include, “How much school funding is enough?” and, “How can we support ‘resource literacy,’ the ability to access, interpret and make decisions about the allocation of available resources in ways that are responsive to student outcomes and needs?”

### Teacher Recruitment, Preparation and Professional Learning

Most teachers in our public schools today did not complete their own K-12 education in a competency-based system. In order to prepare educators to teach students in a competency-based environment, we need to provide them with opportunities to experience these environments firsthand. A high-quality system designed for equity also has implications for the diversity and competencies of pre-service candidates. All of this implies a dramatic change in how we think about teacher pre-service training, licensure and professional learning. It is not enough to rely on teachers’ love of teaching, enjoyment of working with children, or subject expertise, particularly when they often work in high-stakes, low-pay and low-trust conditions. A passion for teaching is an important prerequisite, but it is not enough.

A competency-based system of educator preparation and development would provide a seamless continuum in which aspiring educators build and master instructional competencies, demonstrate their own competencies through the licensure/certification process, and upon entering the profession, access customized professional development and evaluation opportunities to ensure continuous improvement throughout their careers.

To achieve long-term, sustainable change, competency-based education must “define its own space” for what educator capacity development systems need to look like and achieve. Some potential next steps for state and local policymakers to consider include:

- Convene diverse stakeholders to identify challenges and opportunities, and define the goals for an effort to redesign the systems that build and certify educator capacity.
- Conduct a scan of the current schools and practitioners to identify promising practices, programs and policies that are already emerging. This would include attention to local education agencies and charter management organizations that have their own teacher preparation or induction programs focused upon personalized, competency-based learning; identifying barriers to accreditation, and capacity needs for scaling to a broader set of schools.
- Chart a course of action to effectively attract and support diverse educators to meet student needs in competency-based education systems. This effort would include activating student voice to inform systems and build the next generation of educators.

## **"Right-Sizing" the Role between Federal, State and Local Policies**

The most recent reauthorization of the federal Elementary and Secondary Education Act, the Every Student Succeeds Act (ESSA)<sup>55</sup>, is organized around a central goal to shift the balance of power from federal to state government in education. This shift presents an opportunity for states to create new paradigms for public education within their communities. However, it also highlights a capacity challenge for local and state leaders who want to put forth a new vision for our education and lead the design of policy environments that support high-quality competency-based systems.

## **Stakeholder Engagement**

Equity must be by design, not something that is retrofitted to the current system. How can we think more deeply and broadly about engaging diverse stakeholders in truly ongoing and sustainable ways? This engagement goes far beyond town hall meetings to shape ESSA plans, both in terms of substance and in form. For example, how do we diversify the forums and the participants? How can we facilitate and build capacity for engagement at all levels and sectors of our education system, to ensure that diverse viewpoints are included and brought to bear? This engagement also has implications for building new models of reciprocal accountability in which local, state and federal governments and stakeholders all have "skin in the game" for ensuring students are succeeding, no matter what pathway or learning modality they pursue.



## IV. CHARTING THE COURSE



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It is up to us, to all of us who believe in and are implementing competency education, to take on the issues of equity, quality, meeting students where they are and ensuring that policy is fit for purpose. This paper has explored each of the four issues that are paramount to address in order for competency education to fulfill its promise to provide and sustain a better educational system for our next generation. Piecemeal design, poor implementation, turning our backs on the practices that we know will provide greater equity, failing to respond to the needs of students, and continuing to rely on outdated policy structures will result in competency education fading away except for a few shining district examples and a collection of innovative school models. These are not issues for other people to do — but for everyone within their roles, organizations, and networks to actively pursue to deepen our knowledge and develop collective responses.

Below are a number of ideas for action steps that can be taken to advance our knowledge and effectiveness in these issues. Some of these are action steps that iNACOL and *CompetencyWorks* will take on; others are initiatives for other organizations to consider or require substantial collaboration. Please consider these action steps as a starting point for discussion and not a finite list. Certainly, there are many ways to undertake these action steps in ways that build on the values of competency education and strategically engage other partners. For example, there are ways to put into practice the ideas below that will either build a diverse leadership or continue to emphasize white privilege. It is up to all of us to overcome the historical patterns of race and racism in the United States — in our professional lives, in our communities and in our schools.

## A. Strengthen Understanding of Competency Education and Personalized Learning

**The Challenge:** It is critical that we strengthen the resources available to help people understand what competency education is and how it can support personalized learning. If people do not understand that competency-based education requires changes in both culture and structure of schools, there is a risk that it will be approached as simply a technical reform or a set of limited practices. To effectively convert from the traditional system to a competency-based one, educators will need to understand how the pieces of the new system fit together.

The field of personalized learning is also overburdened by multiple understandings, some focusing on technology and others that are much more student-centered that emphasize ways to engage and motivate students. As these ideas are clarified, we anticipate that the ideas of competency education and personalized learning will eventually merge into the next generation education system.

### ***Recommended Action Steps to Generate Shared Understanding***

- Revise the working definition of competency education based on lessons learned over the past seven years and develop a clear logic model.
- Develop and use message-tested communication strategies designed for different stakeholders, including video resources about what competency education looks like and resources to support adaptive leadership strategies to engage people in discussion, not just buy-in.
- Create resources that help educators who are unable to travel to visit a competency-based school to learn more about competency education in peer-to-peer learning opportunities including videos, online discussions, and tools.
- Invest in further avenues for educators to learn about competency education including funding positions at districts with the most mature systems to coordinate site visits, funding travel for site visits, creating detailed documentation (written and video) of the models, and developing more detailed guidebooks.

## **B. Get Serious about Diversity and Equity**

**The Challenge:** It is too easy to say that competency education is designed for greater equitable outcomes but not intentionally draw upon the strategies that have been developed to serve historically underserved students, identify bias, challenge patterns of institutional racism and classism and ensure that all students are consistently held to high expectations. Together, the leaders in competency education — in the classroom, in school and district leadership roles, in intermediary organizations and in the halls of state government — must ensure that the equity is not simply rhetorically at the heart of competency education, but actually producing greater achievement for historically underserved students and greater equity in terms of overall outcomes.

Leadership is not determined by position. It is the ability to create and sustain conditions for operationalizing a school's core values and goals. Leadership must be fully committed to equity; skilled at adaptive or distributed leadership strategies that value transparent decision-making processes and dialogue, and must demonstrate willingness to search for and reflect on personal biases. This includes sharing responsibility for racial and cultural diversity so that we can fully draw upon the full range of knowledge, experience and expertise available.

### ***Recommended Action Steps to Design for and Strengthen Equity Strategies in Models and Implementation***

- Build greater knowledge on how districts and schools are designing and implementing competency-based systems that embed equity strategies to fully meet the needs of historically underserved students. This should include identifying any specific barriers of the culture, structure and policies of the traditional system that are contributing to reproducing inequity and that are not aligned with competency-based systems. Organize knowledge on equity strategies around the three-part National Equity Project definition<sup>56</sup> of educational equity.

- Determine a baseline of where field organizations are in terms of diversity and knowledge and strategies related to equity and then support them in setting goals for building their capacity. Intermediaries, school designers and technical assistance providers should be expected to have diverse staff with organizational capacity for serving the different populations of historically underserved students. Furthermore, they should be intentional and transparent about how their approach and model takes equity strategies into consideration.
- Evaluate and then catalyze cross-organizational knowledge transfer about how equity strategies are embedded into professional learning for personalized, competency-based education by providers and districts. This may include, but not be limited to, professional learning on school design, pedagogy, knowledge of equity strategies, operations (scheduling and calendars), grading practices, and disciplinary policies.
- Cross-walk equity strategies, including culturally responsive strategies, with personalized learning strategies to determine the overlap and how personalized learning strategies can be strengthened to support greater equity.

***Recommended Action Steps to Build Consistency in Student Learning (This section equally applies to quality)***

- Co-create mechanisms to moderate learning objectives and what is considered proficient on core academic skills, higher order skills and the skills related to lifelong learning in order to ensure that districts and schools serving communities of color or low-income communities don't have lower expectations. This process of moderation allows educators to share their understanding of standards and expectations for proficiency in order to improve the consistency of their decisions evaluating student learning and proficiency level based on student evidence.
- Expedite knowledge of moderation processes by launching an initiative to support districts and schools to develop moderation processes that are both vertical (stretching from Kindergarten through the first year of higher education) and horizontal (within departments within a district and across districts).
- Incentivize states to develop initiatives to build capacity and scale around performance based assessments, cross-district and cross-school moderation, and develop next generation state accountability to be more aligned with the science of learning (e.g. New Hampshire's PACE initiative).

***Recommended Action Steps to Expand Equity-Oriented Leadership***

- Take personal accountability for overcoming bias. This can include undergoing race/racism awareness training, looking at problems of practice around bias and race as a team, accessing tools to challenge implicit bias, examining networks to ensure they reflect diversity, and performing a self-assessment on their knowledge as it relates to historically underserved students. Educators at all levels of the system can take responsibility for identifying and managing their own bias through learning, dialogue, and formal feedback. Professional learning communities can play a powerful role in helping to identify and address personal bias through data on student learning, reviewing and enriching units, and scoring student work.
- Create opportunities for leadership to build and receive feedback on adaptive leadership strategies that demonstrate respect, build trust, and empower others. When district and school leaders use a shared vision and clear guiding principles to drive decision-making, they also empower others to participate in decision-making.
- Place a high priority on equity in the hiring process. School boards can seek superintendents who have the skill and courage to identify and challenge inequity and inequitable practices. Superintendents can embed questions in hiring district staff and principals about how they have addressed inequity, their knowledge of equity strategies, and of demonstrated ability to improve achievement for historically underserved students.
- Seek partners who share a commitment to equity, demonstrate diversity in staffing and design products and services with intentional equity strategies that ensure historically underserved students will fully benefit.

## C. Improve Quality of Design and Implementation of Competency-Based Districts and Schools

**The Challenge:** As competency education has expanded, with different entry points, new models, and variations in practices, so has the concern about quality. When there is shallow design or piecemeal implementation, it is unlikely that the robust organizational culture of learning will be developed that is needed to ensure that schools continue to improve and respond to each and every student. Furthermore, if districts and schools refer to partial implementation as competency-based models and fail to see achievement gains, confidence in competency education as a viable and sustainable transformation will waver. Thus, building a shared understanding of quality is critical to the continued expansion of competency education. The action steps described here are only the first steps in what is likely to be a multi-staged effort to define and invest in high-quality design and implementation.

### ***Recommended Action Steps to Develop Shared Understanding of Quality Design and Implementation of Competency Education***

- Develop a quality framework based on the 16 Quality Design Principles with exemplars and red flags that fully draw on equity strategies that can be used to facilitate discussion on quality features and help to identify problematic design and implementation. Exemplars are essential in order to help people from across the field develop a vision of what competency education is, understand key implementation steps, and build a sense of how competency-based education can reinforce student agency, personalized learning, and deeper learning. Red flags help to build awareness and knowledge about misconceptions, missteps, and problems when new structures and practices are built upon the culture of the traditional system.
- Develop a network of high performing competency-based districts and schools that are reducing predictive power of demographic backgrounds and producing higher achievement to build a knowledge base of exemplars of high-quality design and implementation.
- Build knowledge on how districts and schools are designing and cultivating the cultures to support competency-based education and how the culture interacts with structures to create strong learning organizations.
- Research the culture, structure and practices of districts and schools that are generating higher achievement to determine the common quality features and strategies.
- Explore quality assurance strategies that are consistent with the values and design principles of competency-based education including a voluntary or co-designed quality review process. This should include learning from other countries, including New Zealand.

### ***Recommended Action Steps to Develop a Base of Research and Evaluation to Support High Quality Design and Implementation***

- Establish a research agenda to continue to inform understanding about competency education and how to design and implement it effectively.
- Engage districts in co-designing research about the impact of competency-based education on students and teachers in terms of academic learning, lifelong learning, motivation and engagement, and other key issues.



#### ***Recommended Action Steps to Generate Knowledge on Metrics, Processes and Continuous Improvement***

- Gain greater understanding of school effectiveness by identifying key processes, process indicators and decision points around student learning, teacher learning, and analyze their impact on proficiency, pace and progress.
- Build capacity of districts and schools for data analytics (technology, analytic skills, managerial approaches, and communication including data visualization) to support evidence-based interventions, continuous improvement, and cost-effectiveness.

#### ***Recommended Action Steps to Catalyze Development of Effective Student-Centered Information Management Systems***

- Develop knowledge about how districts and schools are using technology to support high quality competency-based systems. Topics to explore may include information management systems; metrics to monitor learning, growth and pace; continuous improvement strategies; management reports to guide decision-making; and learning-centered systems for students and adults.
- Catalyze progress of vendors to develop student-centered information systems to monitor student growth and support continuous improvement by defining requirements, aggregating demand and convening vendors. Information management systems need functionality around student-centered continuums of learning that capture student growth over time, depth of learning, student evidence with portfolios, and the ability to create management reports to support short-term response to students and longer-term continuous improvement. (See iNACOL's report [Student-Centered Learning: Functional Requirements for Integrated Systems to Optimize Learning](#).)

## **D. Build Capacity to Meet Students Where They Are**

**The Challenge:** The state accountability systems have reinforced the traditional time-based system by emphasizing grade level standards and grade level curriculum even if students are well above or well below those performance levels. In order to truly meet students where they are and be able to provide the instructional support they need to advance, schools must have the autonomy, flexibility and capacity to respond in ways that meet the needs of students. This means that they must take into consideration academic skills as well as development, social-emotional learning, and the context of their lives. There are substantial changes that must be made in education systems including knowing where students are, monitoring growth, planning to ensure adequate resources are available for students to learn at a rate that will lead them to graduation, and supporting educators in collaboration and professional learning.

#### ***Recommended Action Steps to Ensure Culture, Structure and Pedagogy are Based on Learning Sciences***

- Develop resources that can help educators access information on the learning sciences and understand the implications. This resource should also clearly identify when there is limited or a lack of evidence on the practices.
- Establish common practice within the field of competency education to refer to the learning sciences upon which practices are based. There is substantial knowledge on learning sciences, learning progressions, engagement and motivation that can inform school design, instructional and assessment design, and policy.

### ***Recommended Action Steps to Monitor and Communicate Student Growth***

- Develop a shared understanding of pace, pacing and progress that recognizes that students do not start at the same point and that paths towards more advanced performance levels may vary.
- Create a research initiative that monitors student growth in those districts and schools that are strategically meeting students where they are including agency, engagement, and academics.
- Launch an initiative that includes K-12 and higher education to review strategies for certifying learning, communicating growth and progress including competency-based report cards, transcripts and innovative diplomas.

### ***Recommended Action Steps to Build Capacity Within Districts to Respond to Wider Set of Performance Levels***

- Document strategies districts and schools are using to meet students where they are especially in the cases where there are a wide range of performance levels.
- Engage experts in academic domains and researchers in the academic learning progressions to discuss strategies for when students are in higher grade levels but have gaps in knowledge. Evidence-based strategies need to be available as resources to educators when students have gaps in foundational skills.
- Collaborate with researchers, experts and practitioners to create more knowledge about strategies when older students have not developed a growth mindset, habits of work, or social and emotional learning.

### ***Recommended Action Steps to Support Educators and Teaching***

- Build knowledge on how personalized, competency-based professional learning can be designed by drawing upon the experiences of those innovative districts that have already begun to build this capacity.
- Create a network of learning facilitators, teacher leaders and coaches that are playing catalytic roles in districts to share strategies and practices as well as design new resources to support other districts making the transition to competency education.
- Convene teachers from competency-based districts and schools to build knowledge on how their mindsets have changed, how their practices have changed, and the sets of expertise that teachers need in a competency-based, personalized school.
- Engage schools of education, competency-based districts and intermediaries that provide personalized learning to outline the skills that new teachers and master teachers need in a competency-based, personalized system and recommend the core learning targets of personalized, competency-based teacher prep programs.
- Develop strategies for educators as well as students, administrators and policymakers to build assessment literacy beginning with an assessment of the current capacity for assessment literacy, including formative and performance-based assessments, within districts and providers of training.

## E. Move Beyond Immediacy to a Long-Term Strategy for Education Policy to Transform to Competency-Based Systems

**The Challenge:** There is a need to approach state policy with a long view, to build a vision toward the future with coherent, student-centered systems, and to cultivate ownership across the state and in communities for the transformation to competency-based education. Creating the policies that are student-centered and are fit for the purpose of an education system in which every student can succeed requires us to challenge commonly-held assumptions about what learning “should” look like. Continuously improving on the goals of the education system, including the role of teachers and students, the use of time, the purpose and nature of assessments, the allocation of resources, learning model designs and the role of schools within the broader context of the community, is necessary to achieve lasting change. To do this, state policy leaders will need to engage diverse stakeholders in meaningful ways to build a shared vision and goals for student success and education systems. This will provide a strong foundation for states to develop a policy strategy for the actions that will be necessary to reach the long-term goals.

### ***Recommended Action Steps for Building a Vision and Long-Term Plan for K-12 Education Transformation to Competency-Based Education Systems***

- Convene a taskforce of diverse stakeholders from across the state to create a vision for what a student-centered education system could look like, and to devise a long-term plan for policies to help transform from the current state to the future state.
- Create a new definition of success for student outcomes to address what students need to know and be able to do to thrive in college, career and civic life. This definition of success could drive coherence and sustainability of the long-term plan, guiding new designs for accountability, systems of assessments, and strategies to build capacity in the educator workforce.

### ***Recommended Action Steps for Policy to Support Building Leader and Educator Workforce Capacity for Competency-Based Education***

- Convene or participate alongside a national working group composed of a diverse cross-section of educators, school leaders, district leaders, students, state leaders, and experts working across the field of competency-based education to “define the space” for the capacity and supports that are needed for a next generation educator workforce. Implications for state policymakers could include accreditation, licensure, and certification standards, and teacher quality or effectiveness metrics in state accountability systems.
- Consider ways policy can support and create space for teacher preparation, leader preparation, and induction programs that are personalized and competency-based, and prepare educators to be effective in student-centered learning environments. Important considerations include:
- Defining and understanding competencies that leaders and educators need to lead the transformation from managing change to designing new personalized and competency-based models
- Addressing barriers to creating, scaling and accrediting innovative leadership and educator preparation models whether in colleges of education, alternative certification programs, or professional development programs (including LEA-based, pre-service and induction models).

### ***Recommended Action Steps for Policies that Support Building Assessment Literacy***

- Build understanding of assessment literacy as a core principle to transform education to personalized, competency-based learning by building educator capacity to understand where students are in their learning. For example, policymakers could examine how other countries (e.g., New Zealand) are building assessment literacy through study of international exemplars.

### ***Recommended Action Steps for Aligning Higher Education to K-12 Competency-Based Education Models***

- Convene diverse stakeholders across K-12, higher education, and community and business leaders to identify opportunities and barriers to align the continuum of education and workforce development to a new definition of success. Key considerations for policy should include:
- Developing a shared understanding of meaningful credentials that are competency-based to ensure seamless transitions between K-12 and higher education in which students are prepared for success at the next stage in their learning.
- Addressing admissions practices with institutions of higher education in the state by facilitating a compact or commitment to evaluate and accept competency-based high school transcripts as documentation of student readiness to succeed in higher education without remediation.
- Modernizing teacher preparation pre-service programs in higher education to prepare educators with the skills required to implement personalized, competency-based learning environments.

## **F. Closing Comments**

Those that make up the field of competency education have been generous in sharing their knowledge by opening their doors of their classrooms to streams of visitors, creating design labs for others to take deep dives into implementation strategies, sharing their insights along the way and participating in the process that shaped the ideas in this paper. This generosity is complemented by humility. Everyone involved in competency education understands themselves as learners with the job of continuing to learn until every student is achieving at the highest levels, using their lifelong learning skills to navigate their life, shape their future and discover their potential.

Districts, schools and educators implementing competency education will encounter a range of other issues, some small enough to resolve themselves and others that require engaging others. The field is moving to a new stage where it is not only important, but essential, for us to build knowledge and rapidly share the knowledge on ways to resolve the smaller issues that can be managed within a district or school. For those larger issues, we need to move to a new stage of organization as a field so that we can begin to leverage the extraordinary leadership of educators who are committed to doing what is best for students.

Ty Cesene principal at Bronx Arena summed it up when he said, "We aren't done innovating until 100 percent of our students are graduating." This is a reminder to all of us. Competency education isn't really competency education until we figure out how to get all students fully prepared for college, career and life

## APPENDICES



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## Appendix A: Glossary

We find ourselves in a highly creative and visionary time of deconstruction and re-design. Terminology is changing, refining, and expanding. Identifying points of intersection lead us to deeper understanding of how concepts can be woven together. The innovations of practitioners lift our expectations and open new doors. Thus, we offer the following terminology to help us communicate with each other with the understanding that it is likely that many will use different terminology or assign different meaning.

### Assessment Literacy

Assessment literacy is the collection of knowledge and skills associated with appropriate assessment design, implementation, interpretation, and, most importantly, use. A critical aspect of assessment literacy is that educators and leaders know to create and/or select a variety of assessments to serve different purposes such as improving learning and teaching, grading, program evaluation, and accountability. However, the most important component of assessment literacy is the degree to which educators and others are able to appropriately interpret the data coming from assessments and then take defensible instructional or other actions.

### Calibration

Calibration is a process of adjusting results based on a comparison with a known standard or “calibration weight” in order to allow defensible comparisons of student assessment results; for example, across different entities (e.g., schools, districts, states). In order to define a calibration weight, we need to have something in common, either the same students taking different assessments or different students taking the same assessments. The latter is generally more practical, so common performance tasks have been administered to students in different schools, and district performance assessments serve as a “calibration weight” to evaluate the extent to which teachers in different locales evaluate the quality of student work similarly.

### Comparability

Comparability is defined as the degree to which the results of assessments intended to measure the same learning targets produce the same or similar results. This involves multiple levels of documentation and evaluation starting from the consistency with which teachers in the same schools evaluate student work similarly and consistently, to the degree to which teachers in different schools and districts evaluate student performances consistently and similarly, and finally the degree to which the results from students taking one set of assessments can be compared to students taking a different set of assessments (such as comparing pilot and non-pilot districts). A determination of “comparable enough” for any type of score linking should be made based on clear documentation for how comparability is determined and that it is defensible.

### Competency-Based Education

Competency education, also known as mastery-based, proficiency-based, or performance-based, is a school- or district-wide structure that replaces the traditional structure to create a system that is designed for students to be successful (as compared to sorted) and leads to continuous improvement. In 2011, 100 innovators in competency education came together for the first time. At that meeting, participants fine-tuned a working definition of high quality competency education, which includes five elements:

- Students advance upon demonstrated mastery.
- Competencies include explicit, measurable, transferable learning objectives that empower students.
- Assessment is meaningful and a positive learning experience for students.

- Students receive timely, differentiated support based on their individual learning needs.
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

### Continuum or Learning Continuum

A continuum refers to the set of standards or learning targets along a span of education (for example, K-12 or performance levels 9-12). It is the set of expectations for what students should know and be able to do. However, it does not imply that students need to learn all of the standards in a linear way or be taught them based on their age-based grade level. The student learning trajectory and research on learning progressions should inform instruction.

### Curriculum

There are many definitions of curriculum in education. Internationally, the term curriculum or curriculum frameworks refers to the high level knowledge and skills students are expected to learn and describe (i.e., competencies). The curriculum framework may include student learning objectives or learning standards.

In the United States, the term curriculum also refers to the resources that teachers use when designing instruction and assessment to support student learning, including: the course syllabi, units and lessons that teachers teach; the assignments and projects given to students; the materials (books, videos, presentations, activities) used in a course, module, or unit; and the assessments used to evaluate student learning and check for understanding.

CompetencyWorks will use the term learning experiences to refer to the design of the learning process and the accompanying set of resources to support student learning.

### Culturally Responsive Teaching

First coined by Gloria Ladson-Billings in 1994, culturally responsive teaching is the pedagogical practice of recognizing, exploring, and responding to students' cultural contexts, references, and experiences. Cultural responsiveness builds upon eight principles:

- Communication of High Expectations
- Active Teaching Methods
- Practitioner as Facilitator
- Inclusion of Culturally and Linguistically Diverse Students
- Cultural Sensitivity
- Reshaping the Curriculum or Delivery of Services
- Student-Controlled Discourse
- Small Group Instruction

The New York City Mastery Collaborative highlights that a competency-based approach can promote cultural responsiveness in the following ways:

- Transparency: path to success is clear and learning outcomes are relevant to students' lives and interests. Shared criteria reduce opportunity for implicit bias.
- Facilitation shifts: refocus the roles of students and teachers to include flexible pacing, inquiry-based, collaborative approach to learning. Students drive their own learning, and teachers coach them.
- Positive learning identity: growth mindset and active learning build agency and affirm students' identities as learners (academics, race, ethnicity, gender, sexual orientation, etc.).



## Deeper Learning

The term deeper learning is often used to describe highly engaging learning experiences in which students apply skills and knowledge and build higher order skills. The Hewlett Foundation defines deeper learning as six competencies: master core academic content; think critically and solve complex problems; work collaboratively; communicate effectively; learn how to learn; and develop academic mindsets. Deeper learning intersects with competency-based education in multiple ways, including defining the learning outcomes; emphasis on lifelong learning skills such as academic mindset and learning how to learn; and importance of applying skills and knowledge to build competencies.

## Educational Equity

There are many definitions of equity in education. *CompetencyWorks* will use the definition from the National Equity Project:

*Education equity means that each child receives what he or she needs to develop to his or her full academic and social potential. Working towards equity involves:*

*1. Ensuring equally high outcomes for all participants in our educational system; removing the predictability for success or failures that currently correlates with any social or cultural factor; 2. Interrupting inequitable practices, examining biases, and creating inclusive multicultural school environments for adults and children; and 3. Discovering and cultivating the unique gifts, talents, and interests that every human possesses.*

## Equality

Equality is related to the principles of fairness and justice. It refers to equal treatment and, in the past, has been used to refer to equal inputs. *CompetencyWorks* uses the term equality as an aspirational goal of all students reaching their full potential.

## Fixed Mindset (See Growth Mindset)

Carol Dweck's research suggests that students who have adopted a fixed mindset — the belief that they are either "smart" or "dumb" and there is no way to change this — may learn less than they could or learn at a slower rate, while also shying away from challenges (since poor performance might either confirm they can't learn, if they believe they are "dumb," or indicate that they are less intelligent than they think, if they believe they are "smart"). Dweck's findings also suggest that when students with fixed mindsets fail at something, as they inevitably will, they tend to tell themselves they can't or won't be able to do it ("I just can't learn Algebra"), or they make excuses to rationalize the failure ("I would have passed the test if I had had more time to study"). (Adapted from the Glossary of Education Reform [edglossary.org](http://edglossary.org).)

The traditional system of education was developed based upon a fixed mindset and resulted in a belief that part of the K-12 system's function was to sort students.

## Growth Mindset (See Fixed Mindset)

The concept of a growth mindset was developed by psychologist Carol Dweck and popularized in her book, *Mindset: The New Psychology of Success*. Students who embrace growth mindsets — the belief that they can learn more or become smarter if they work hard and persevere — may learn more, learn it more quickly, and view challenges and failures as opportunities to improve their learning and skills. Dweck's work has also shown that a "growth mindset" can be intentionally taught to students. (Adapted from the Glossary of Education Reform [edglossary.org](http://edglossary.org).)

Competency education is grounded in the idea that all students can succeed with the right supports, including learning how to have a growth mindset.

### **Habits of Work/Habits of Mind** (Referred to in this paper as Habits of Success)

Habits of work and habits of mind are directly related to the ability of students to take ownership of their learning and become self-directed learners. There are a variety of Habits of Work (specific practices or behaviors) and Habits of Mind (skills, perspectives, and orientation) that help students succeed in school or the workplace. Schools tend to focus on a few of the habits of work and mind to help students learn the skills they need to take ownership of their learning. See Learning and Leading with Habits of Mind.

### **Higher Order Skills/Deeper Learning Competencies**

Higher order skills refer to skills needed to apply academic skills and knowledge to real-world problems. The term can refer to the higher levels on Bloom's or Webb's taxonomy or to a set of skills such as creativity, critical thinking, problem-solving, working collaboratively, communicating effectively, and an academic or growth mindset.

### **Learning Resources**

The materials explored during a course, module, unit, or activity: videos, images, audio, texts, presentations, etc.

### **Learning Experiences**

The term learning experiences is used to convey the process and activities that students engage in to learn skills and knowledge. The term refers to the package of outcomes and targets, activities, resources, assessments, and pedagogical strategies that are associated with a course, module, or unit. In the United States, this is generally referred to as curriculum. (See definition of Curriculum.)

### **Learning Progression**

Learning progressions are research-based approaches and maps how students learn key concepts and skills as described in Achieve's briefing The Role of Learning Progressions in Competency-Based Pathways.

### **Learning Sciences Research**

The learning sciences are concerned with "the interdisciplinary empirical investigation of learning as it exists in real-world settings."<sup>57</sup> Core components of learning sciences research include:

- Research on thinking: including how the mind works to process, store, retrieve, and perceive information;
- Research on learning processes: including how people use "constellations of memories, skills, perceptions, and ideas" to think and solve problems, and the role that different types of literacies play in learning; and
- Research on learning environments: including how people learn in different contexts other than a direct instruction environment with a core principle of creating learner-centered learning environments.<sup>58</sup>

### **Lifelong Learning Skills**

In the paper *Lifelong Learning Skills for College and Career Readiness: Considerations for Education Policy*, AIR describes lifelong learning skills as providing "the foundation for learning and working. They broadly support student thinking, self-management, and social interaction, enabling the pursuit of education and career goals." *CompetencyWorks* uses the term to capture the skills that enable students to be successful in life, navigating new environments, and managing their own learning. This includes a growth mindset, habits of success, social and emotional skills, metacognitive skills, and higher order/ deeper learning competencies.

### **Moderation**

Moderation is a process used to evaluate and improve comparability. The process involves having teachers (or others) work to develop a common understanding of varying levels of quality of student work. Moderation processes are often used as part of calibration, but moderation is a way to evaluate comparability while calibration is the adjustment based on these findings.

### **Personalized Approach to Learning or Personalized Learning**

iNACOL defines personalized learning as “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.” Personalized learning takes into account students’ differing zones of proximal development with regards to academic and cognitive skills, as well as within the physical, emotional, metacognitive, and other domains.

Barbara Bray and Kathleen McClaskey explain in the PDI Chart that personalized learning is learner-centered, whereas the related approaches of differentiation and individualization are teacher-centered. Thus, teachers may use a personalized and differentiated approach to meet students where they are.

### **Social and Emotional Learning**

According to CASEL, “social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.” They focus on the development of five competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

### **Student Agency**

Student agency or student ownership of their education refers to the skills and the level of autonomy that a student has to shape their learning experiences. Schools that want to develop student agency will need strategies to coach students in the lifelong learning skills (growth mindset, meta-cognition, social and emotional learning, and habits of work and learning) and to establish practices that allow students to have choice, voice, opportunity for co-design, and the ability to shape their learning trajectories.

### **Student Learning Trajectories**

CompetencyWorks refers to trajectories as the unique personalized path each student travels to achieve learning goals on the way to graduation. Educators apply what is known about learning progressions toward helping students make progress on their trajectory.

### **Universal Design for Learning (UDL)**

CAST defines Universal Design for Learning as “a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.” UDL guides the design of instructional goals, assessments, methods, and materials that can be customized and adjusted to meet individual needs.

### **Zone of Proximal Development (ZPD)**

A term developed by psychologist Lev Vygotsky to refer to the moment(s) during the learning process that lives between what one can do on one’s own and what one cannot do at all. It is the zone in which guidance and support is needed in order to become independently competent. A personalized approach to learning provides students with access to learning experiences attuned to students’ individual ZPD — which sometimes overlaps with others’, but frequently may not.



"This course was developed and edited from the open access article: [Quality and Equity by Design: Charting the Course for the Next Phase of Competency-Based Education](#) - Nina Lopez, Susan Patrick, Chris Sturgis, Antonia Rudenstine, Dixie Bacallao, Sydney Schaef, Maria Worthen, Dale Frost, Natalie Truong, Ashley Jones, and Natalie Abel, [CompetencyWorks](#) (2017) , used under the Creative Commons Attribution License."