

# Charting New Frontiers in Student-Centered Learning

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# Who We Are

## [Connecticut Association of Public School Superintendents \(CAPSS\)](#)

The Connecticut Association of Public School Superintendents (CAPSS) is an organization that represents all of the superintendents and leaders of public schools in Connecticut. Our mission is to lead the continuous improvement of public education for all students by advocating public policy and developing and supporting executive school leaders. CAPSS is committed to making sure schools in Connecticut are all they can be for our children.

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As the State's educational technology advisor, the Commission designs, stewards, and promotes policies, programs, insights, and resources that support the effective use of technology for all learners, teachers, and educational organizations in Connecticut. Its work addresses the needs of the K–12, higher education, library, and research communities through its five-year State Educational Technology Goals and Plan.

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## About the Initiative

The Connecticut Association of School Superintendents (CAPSS), the Connecticut Commission for Educational Technology (CET), and Innovation Partners America conducted an inquiry into the state of Connecticut’s K–12 education ecosystem. Our objectives were threefold:

1. Outline foundational challenges to student-centered learning across the state;
2. Create an ecosystem “inventory” that helps illuminate Connecticut’s assets, and
3. Recommend solutions to maximize Connecticut’s impact and ability to drive the quality and scale of student-centered learning.

This work took shape through desk research, in-person meetings, phone calls, interviews and feedback sessions with stakeholders and experts who provided the quotes you see throughout the paper. Interviews with representatives from professional organizations, state agencies, K–12 superintendents, higher education leaders, investors, and entrepreneurs specifically helped us to identify challenges and opportunities to scaling student-centered approaches statewide.

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## A Note on Terms

In our discussions and throughout this paper, we employ the term “innovation” to signal approaches to teaching and learning deemed “student-centered learning” as defined by four components: personalized learning; student-owned learning; mastery-based learning; and anytime, anywhere learning. These approaches are sometimes enabled through the use of technology.

We use the term “ecosystem” to encompass the human and institutional assets and barriers in Connecticut that will either enable or challenge the adoption of innovative educational approaches to improve teaching and student outcomes. We refer to those collective human and institutional factors—district and school leaders, state administrators, professional organizations, entrepreneurs, and funders as well as laws, standards, educational culture, and collective understanding and attitudes—as Connecticut’s K–12 educational ecosystem.

Finally, we enlist the term “state” in most instances to mean the *collection* of K–12 leaders and advocates at all levels of the education system.

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## Executive Summary

Connecticut is not alone.

Never before have we as a country or planet faced such a rapid, persistent pace of change, at a rate that is outrunning our natural rhythms and collective systems. These times demand agility, adaptability, and resilience—and an unprecedented expectation for self-direction, in an increasingly niched economy and society. Our legacy—whether seen in our children or in our institutions—will be a testament to today’s choices.

The quality of one of our most important choices will impact the lives of every child in Connecticut: how do we design learning that best prepares all children for this new future? We believe that student-centered learning is the best choice and the most promising pathway forward.

Too many students are increasingly disengaged from what is often an irrelevant curriculum, short on opportunities for learners to pursue their passions or obtain the skills they need to navigate the disruptive world of work. At its best, student-centered learning will provide every student the chance to identify their unique strengths and challenges, and cultivate their cognitive and emotional growth, reaching their own highest outcomes. Demonstrating mastery of the knowledge, skills, and dispositions that they need in order to direct their own next steps on their life-long learning journey is critical in meeting the new reality our young people face in the ever-changing “gig economy.”

For several months, we engaged in conversations across Connecticut to understand the state of the ecosystem in relation to student-centered learning, its challenges, and its opportunities. The voice of these stakeholders coalesced around the following key themes, while raising many important questions for discussion throughout the body of the full report.

- **The expected outcomes for a Connecticut graduate are severely outdated.** Connecticut needs to rally around a vision of the graduate of the future.
- We need to align policy with specific aspects of a new vision of a graduate that drives student-centered learning across the state. **The policy environment—though shifting to permit more student-centered practices—falls short of supporting schools that are intentionally designed to serve the needs of a wide range of learners.**
- **Student-centered learning and the creation of evidence of growth needs to be at the forefront of how we discuss and analyze our practice and our results.** A shared and prioritized learning agenda with questions driving the efficacy of student-centered learning could be key to the seeding and growth of *effective* models and practices.
- **We need to build a culture and capacity for experimentation.** There is broad opportunity to think anew about how systems and structures can behave to promote more experimentation, and be more systemic in cultivating related skills.
- While Connecticut, like many governments, is dealing with an unenviable budget strain, many felt **this is the prime time for collaboration**—and to leverage resources across the ecosystem and with public-private partners.

Connecticut is not starting from scratch. It has many assets. We learned of the rich opportunities—learning mod-

els, leading research and digital tools—that exist across the state, many presented in brief in this report. We have a constellation of innovations in practice and ways of working—within and outside of the education system, creating a dynamic arena for change. Connecticut’s unique nexus of education, community, technology, and entrepreneurial leadership has great potential for co-innovation and collaboration—and bringing student-centered learning to scale.

Given these conversations and findings, we offer five recommendations:

## ONE

**Develop a common vision of student mastery by the conclusion of high school.** Graduate profiles, signaling new sets of competencies, can support and provide the vision and impetus for transformative change. Profiles not only establish agreed-upon goals for students’ learning, but can also be leveraged to transform the human capital, systems, structures, processes, and culture that supports student learning in the modern era.

## TWO

**Use this new vision to drive and inspire development of an intentional framework and set of principles that direct policy, statewide and locally, in recognizing different learners and how they can be supported in their pathways to success.** This work would be shaped by pioneers leading the way. Connecticut has an opportunity to forge the outcomes we need, and the student-centered innovation required to get us there.

## THREE

**Create a jointly owned “innovation lab.”** This lab would distinguish between education reform that increases the efficiency of the system we have versus approaches to transforming it, and act as a catalyst for a broader research and development movement.

## FOUR

**Enact a campaign to identify and amplify the work of cross-sector student-centered pioneers that showcase the graduate of the future.** Innovating toward new outcomes requires tolerance for risk as well as a set of knowledge and skill competencies leveraged by individuals and organizations across the system. Innovation can shift from being the domain of a few “creative types” to becoming a ubiquitous and recognized capability—but we need strong examples.

## FIVE

**Identify and analyze untapped and unrealized resources that exist in every corner of Connecticut, in regional and national networks, and online.** We need to think differently about and leverage available resources to catapult innovation. With the stakes so high, the challenge of building a successful graduate cannot rest on a request for more resources. We must pursue promising strategies, including the redeployment of existing resources, new partnerships, co-innovation, and work across sectors to share and create the open resources, tools, and practices that these times demand.

This report is meant to capture and contribute to a conversation already taking place across Connecticut. We hope it serves as a way to engage and invite others, across this diverse ecosystem of change agents and practitioners, to envision and launch the legacy our children deserve.

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## Note to Readers: Between Two Paradigms

“Scaling student-centered learning isn’t just about practice and infrastructure. It is about going beyond our existing mental models and frames for change.”

In the final weeks of bringing our inquiry and this report to a close, we identified an important distinction among stakeholder voices that we call out here. **Voices in this report go back and forth between those who desire to use innovation and reform to improve the current school-centered system, and those who want to create a new student-centered system.**<sup>1</sup> As we note in the introduction, there is wide disagreement about how to evolve the practice of education, but there *is* a shared belief that the current system was not designed to help all learners succeed. What remains unclear is just how far all Connecticut stakeholders want to push beyond and outside of the current system.

In a school-centric paradigm—where all components of the system are designed for efficiency of education delivery and in the context of standardized schools—the current **school-centered system** is often referred to as factory-like, a moniker that is well-deserved given its industrial roots. It determines a standardized curriculum of what every student is expected to know and be able to do by the end of their time in the system, at a pace set by the adults. When students don’t meet expectations—whether in terms of attaining the content and skills or the timeline itself—the system flags this yet continues to serve the student using the same methods, with some accommodations. For most, this approach and this system fail them. **Thus, the many efforts underway to reform and innovate on the current system.**

A student-centric paradigm is one where all components are designed for the education experience to be adaptable *to the needs and potential of each learner, supporting the highest possible outcomes for each learner.* **A complete shift to a student-centered system** implies two things: First, the system recognizes that each learner is unique and brings a different set of assets, capabilities, and challenges. Second, that learning must be designed to be flexible, not rigid, so that a student’s education will be tailored around them in multiple ways. This includes defining what is important to them, and letting them gain and demonstrate mastery of competencies in different ways. Student-centered learning accepts the reality that not every child is going to look the same coming out of the system. It embraces that reality. **Student-centered systems must be intentionally created; they are not the result of reform and innovation.**

The choice of a school-centered or student-centered paradigm (and the related system we choose) will ultimately lead us in very different directions.

For instance, the stakeholders we spoke to believe student-centered learning holds promise in helping to address equity issues. Connecticut ranks nationally as one of the states with the highest student performance, yet the data mask **discrepancies in test scores**<sup>2</sup> that continue between different socioeconomic, racial, and cultural groups leaving Connecticut to face one of the largest achievement gaps in the country. Central to the challenge of equity, however, is determining if we imagine the solution to hinge on closing gaps on test scores versus allowing learners different ways to demonstrate their learning and mastery—and knowing that this may not appear in test score outcomes for a range of complex reasons including that standardized tests are not the best or only way for all learners to demonstrate their knowledge and understanding by virtue of the fact that they privilege certain subsets of learners.

<sup>1</sup> For a complete introduction to, and discussion of paradigms, see [“A Transformational Vision for Education in the US,”](#) Education Reimagined (2015) and [It’s a Paradigm Shift. So What?](#) Education Reimagined (2016).

<sup>2</sup> Connecticut Center for School Change (2017). Why We Are Here. Retrieved from <http://www.ctschoolchange.org/who-we-are/why-we-are-here/>.

These are the challenging crossroads many educators are faced with today.

**This report weaves between school-centered reform and student-centered thinking because it reflects the reality of the conversations we've had.** Readers will witness this tension from time to time, and note a call for deeper discussion around this critical distinction.





If I had a magic wand, I would say let's pick one place to start, like personalized learning, and let's make Connecticut the most innovative, exciting forward-thinking state on personalized learning. Treat it all like an innovation cycle. How do we identify the best thinkers in the state—not just people in education? Make clear what the goals are, and that we're not compromising in this area. Bring in people who are doing this well. Do it in an egoless way, outside of the system. Find incentives, create shared professional development, and give us all some ownership including parents. Carve out resources. Get the right people to organize this. Expect a planning period. Get the right people in the room and create some space among the fractured spaces; we need a systematic way to innovate.”

- K-12 Public School Superintendent

# Introduction

**T**he 21st Century quickly disrupted our traditional concepts of time and place, and we are scrambling to adapt. The current pace of change in the world favors more agile and adaptable education institutions as well as more resilient education systems. Districts, universities, government agencies, and entrepreneurs do not know exactly what students should be learning to prepare for the future—outside of learning to be a life-long learner and adaptable problem solver. And this is key to student-centered learning.

While there is wide disagreement about how to evolve the practice of education, there *is* a shared belief that the current system was not designed to help all learners succeed, but rather designed to do the opposite, ranking and sorting students largely according to their ability to recall and process large swaths of content. We do not yet have a system of education that develops in all learners the types of skills they need in order to succeed; learners who are themselves more curious, agile, resilient and self-directed.

We know unequivocally that the future of work mandates that individuals will need to self-monitor and address their educational needs across their lifetimes. An estimated 65% of children entering primary schools today will likely be [working in roles that don't currently exist](#)<sup>3</sup>. America Succeeds further documents this disruption in [“The Age of Agility: Education Pathways for the Future of Work,”](#) citing a need for far greater collaboration and connections among those in K-12, higher education and employers. In an age of robotics and machine learning, we will need to do more than call for lifelong learning to address the state of our work and civic spheres as “students exiting the pre-K-12 education system will need to be prepared for radical societal and workplace changes if they are to have any shot at thriving personally or professionally.”<sup>4</sup>

In Connecticut, we see signs of what is to come in 2017. After 164 years in the ‘insurance capital,’ Aetna Corporation added itself to the list of companies leaving or at least moving part of its workforce out of Connecticut, relocating its headquarters out of Hartford and into New York City. The CEO, Mark Bertolini, says it left in search of [“younger people, technologists, and innovation”](#) as it transforms into a digital health company. With the goal of broadening their “access to innovation and the talent that will fill knowledge economy-type positions,” the company echoed General Electric who announced it was leaving Fairfield for Boston in 2016 [to be closer to talent available](#) from MIT and Harvard, as well as wanting to be surrounded by established and emerging tech firms and a younger workforce.

With all of this as a backdrop, we asked one fundamental question:

If we agree that traditional models of learning established in the industrial era do not best serve all students, then why isn't a more concerted, systematic shift to more effective learning models to prepare students for

In Connecticut, some organizations refer to “student-centered learning” as defined by four components: personalized learning; student-owned learning; mastery-based learning; and anytime, anywhere learning.<sup>5</sup>

However, there isn't a shared or precise agreement on exactly what these components mean, or how they might overlap.

<sup>5</sup>Nellie Mae Foundation (2017). What are Student-Centered Approaches? Retrieved from <https://www.nmefoundation.org/our-vision>.

<sup>3</sup>World Economic Forum. (2016). The future of jobs: Employment, skills, and workforce strategy for the fourth industrial revolution. Retrieved from [http://www3.weforum.org/docs/WEF\\_FOJ\\_Executive\\_Summary\\_Jobs.pdf](http://www3.weforum.org/docs/WEF_FOJ_Executive_Summary_Jobs.pdf).

<sup>4</sup>Gaulden, J., & Gottlieb, A. (2017). The age of agility. Education pathways for the future of work. Denver, CO: America Succeeds.

their futures taking place in Connecticut?

Indeed, many schools and districts have taken the lead in engaging learners in more student-centered approaches that may help point the way forward in the future. In Connecticut, it has been educators pushing other educators to think about new models to support an unlimited range of student needs, paces, and preferences. For instance:

- [Montessori Magnet School](#) offers a public education for students ages three to twelve. The school’s Montessori philosophy of individualizing instruction for all children attracts students from across Greater Hartford. Its preschool model, that involves child-directed, freely chosen activity and academic content, is recognized for elevating and equalizing child outcomes among subgroups.
- [Meriden School District](#) is leading an initiative combining the effective use of technology in 1:1 classrooms with rigorous instruction and timely feedback, student-led learning opportunities, and expanded learning outside the classroom. Staff and students are encouraged to [“Take Charge of their Learning.”](#)
- [Windsor Locks Public School District](#), in partnership with Central Connecticut State University, is considered [a model](#) for how public school districts and colleges can work together to make a difference in what a personalized, mastery-based diploma looks like — and what it means for colleges.
- One of the newest models taking shape is an Achievement First “Greenfield School,” known as [Elm City College Prep, in New Haven](#). Greenfield is a showcase for many big ideas converging in a reinvention of school—including the idea that kids will accomplish remarkable things if they are grounded in their purpose, and thrive in a multimodal learning model powered by technology and rigorous curricular design.

How do we support the trajectory of these and other pioneers? How do we accelerate the velocity of our learning related to creating a new level of student outcomes for all?

These are tough questions with no easy answers, but this report attempts to offer some directions and recommendations for next steps.

# Challenges and Opportunities: Student-Centered Learning Innovation

## RALLYING A VISION: THE GRADUATE OF THE FUTURE

“No one is on intellectual offense to build a new vision of the graduate of the future.”

What is clear throughout this inquiry is that Connecticut’s stakeholders believe the state is focused on promoting student learning and reducing the achievement gap in K–12 schools within the current system. And there are pockets of committed innovators everywhere, as noted throughout this report. Yet stakeholders pointed to a critical need for a deep-seated vision of the graduate we need today and in the future to anchor student-centered efforts.

“We have an ocean of standards so the result is nobody is accountable for any of them. Definitions are so voluminous and overwhelming, mastery is impossible and much of the content ceases to have value in a just-in-time marketplace. Water, water everywhere, and not a drop to drink.”

Life beyond high school is not the same as it was even five years ago. Most jobs require training or education beyond high school, and a sharply upgraded set of competencies are needed to tackle future careers and civic life. Development of a vision can [help schools and their communities](#) think about the most important cognitive capacities that should underpin students’ learning like critical thinking and problem solving, include personal competencies like initiative and self-direction, and interpersonal competencies such as empathy and communication.<sup>6</sup>

Under the leadership of CAPSS, a 22-[district leader cohort](#) is beginning to address the future “Portrait of the Graduate”—an elevated set of student outcomes aligned to the future our graduates face. Five Systemic Transformation sessions between 2017-2018 could jumpstart energy around a shared vision and a related lexicon for a confluence of important approaches including mastery-based and personalized learning that are seen as key vehicles to reaching new student outcomes.

Many stakeholders pointed to a need for a shared lexicon to support understanding of phrases such as “graduate of the future” and student-centered approaches, including their relationship to technology.<sup>7</sup>

<sup>6</sup> Kay, K. (2017, May 12). The graduate profile: A focus on outcomes. *Edutopia*. Retrieved from <https://www.edutopia.org/blog/graduate-profile-focus-outcomes-ken-kay>. Also see <http://edleader21.com> and <http://profileofagraduate.org> for exemplars and tools.

<sup>7</sup>Note these terms play out in different ways when one distinguishes between a school-centered and a student-centered paradigm.

“We’re all behind student-centered learning, but we have to say this is what it is, and this is how it’s different, and why it matters. What are we talking about? This requires more diligence; let’s not make any assumptions.”

On a basic level, terms have become “buzzworthy” and their definitions left open to personal interpretation. In [Personalized Learning Is the Answer \(I Forgot the Question\)](#), Kenneth Klau notes excitement shared by proponents of personalized learning eclipses any universal agreement about what it actually means. Importantly, Klau notes there is more consensus among organizations external to schools that advocate its use than among educators charged with enacting it.

“We’re trying to move toward a common vision, but we need more time to define what words mean personally and collectively.”

Given the diversification of the outcomes needed in life after high school, we should expect to see a diversity of competencies raised by different schools and districts—while still rowing in the same direction. Diversification of outcomes is key to intentionally designed student-centered schools.

Many believe the graduate profile could be a *critical lever* for transformative change. [A profile not only establishes agreed-upon goals](#) of students’ learning but can also be used to transform the human capital, systems, structures, processes, and culture that supports student learning throughout a school or district. With the stakes so high, the challenge of building a successful graduate in Connecticut cannot rest on a request for more resources to pursue this work. Existing time, focus, and resources need to be redeployed to focus on the most critical outcomes we seek.

**OPPORTUNITY:** [There is an immediate opportunity to build a stronger, more robust vision of the graduate of the future, which in turn, can help drive a more responsive system.](#)

## Unleashing the Most Underutilized Resource in Education: The Learner

What do learners think about transforming K-12 education in ways that lead to more powerful learning experiences designed to meet the unique needs of every learner? How have next generation learning designs fostered their development and provided them with opportunities, leading to deeper learning and increased engagement?<sup>8</sup>

[Click](#) to watch this video from the 2017 INACOL Symposium

<sup>8</sup> iNACOL – International Association for K-12 Online Learning (2017). Unleashing the most underutilized resource in education: The learner. *YouTube*. Retrieved November 08, 2017, from <https://youtu.be/x5vzWSfNgA0>.

**P**olicy is the lever and the hammer in our current educational system. It drives the commitment of our time and resources, as well as our behavior. It also drives the educational experience we create—and learning we prioritize—for our students.

There were two major policy areas of concern among stakeholders: (1) Graduation or **content standards** (i.e., student growth measures) and (2) **Teacher evaluation**, as it is related to the movement of those measures and adherence to standards. Unfunded mandates were also thought to compete with supporting student-centered innovation.

Connecticut has been a leader in many ways. But we found the reality of these policies that govern behavior and results in the current system often impede the very student-centered approach we need.

As the lever and hammer, current policies that aren't aligned with that intention may be nailing us to a sinking ship.

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### Unfunded Mandates

“State-level plans highlight the importance of equity, mastery- or competency-based learning, but I question long-term sustainability and scale.”

After the imposition of more than 200 unfunded mandates on local school districts and municipalities (some believed to be related to the mission of public education, some not), many have outlived their usefulness or work in opposition to other mandates. These mandates consume staff time and financial resources, and come with an opportunity cost as well, all of which constitute major impediments for those striving to transform learning opportunities and outcomes for children.

Stakeholders expressed a great need to free up resources in light of current budget constraints, citing mandates and the cost of their implementation (time, focus and funding) as a challenge to learning innovation. Most recently Public Act 17-37, An Act Implementing the Recommendations of the Task Force on Professional Development and In-Service Training Requirements, reduced statutory professional development mandates, and Public Act 17-220, An Act Concerning Education Mandate Relief, begins to alter or eliminate several state mandates (for instance, allowing rather than requiring boards of education to follow a unified regional calendar).

Certainly, the reduction of these mandates provides more appropriate flexibility on the local level to reallocate time and resources as needed for student-centered learning efforts. There is much more work to be done, but these [efforts don't go unnoticed](#).

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## Graduate & Content Standards—Assessing What We Measure

Standards and accountability—powerful words of the past three decades of education reform—remind us of the adage: what we measure matters, what matters we measure. Policies around standards and accountability, more than any other, drive the educational experience our students have—and the organization of our schools and teaching practice. As what matters to college, career, and life shifts for this new generation, so too must our expectations—and the policies we put in place around our expectations.

The Connecticut State Board of Education’s Five-year Comprehensive Plan (2016–21) outlines a commitment to equity and excellence with myriad actions intended to drive outcomes through high expectations, great teachers and leaders, and great schools. Together with its U.S. Department of Education-approved Every Student Succeeds Act (ESSA) plan, leadership has signaled its intention to promote student growth through a broader selection of [measures](#)<sup>9</sup> and the use of assessments that provide reliable, valid, and consistent data. While not every stakeholder is a fan of the plan—particularly absent *proficiency* targets in the traditional sense of the word—others welcome commitments to relieve some of the pressure associated with a binary proficient/not proficient approach to accountability. This moves us toward a focus on the complexity of expectations for the graduate of the future.

Public Act 17-42, An Act Concerning Revisions to the High School Graduation Requirements, is seen as a positive by many reformers. The result of many years of effort, the new requirements increased the minimum number of credits for high school graduation to 25, and more importantly, allow students to meet these requirements by demonstrating subject-matter content mastery through educational experiences and opportunities, providing more flexible and multiple pathways to learning.

Others, however, disagree. Some cite error in the new Act’s focus on subject content mastery and essentially holding people accountable for the same results through its system of traditional accountability measures, yet expecting different and extraordinary outcomes from its students.

“Instead of empowering the kind of innovation and skill-based focus many believe will define the hallmark of a successful future graduate, what adding more content-focused credits in existing subject areas as a graduation requirement represents is a type of sunk cost mentality regarding traditional content outcomes. If 30 years of adding standards and measurements has not improved our ability to create future focused students, then maybe doing more of it will help? While the Act allows students to meet requirements by ‘demonstrating subject-matter content mastery through educational experiences and opportunities that provide flexible and multiple pathways to learning,’ some just see this as a way to provide alternatives to demonstrate mastery of a product that is not aligned with future needs in the first place.”

**The more important the skill is to the future, the harder it is to nail it down with a number that is as reliable as the content based assessments that we have become accustomed to.** We can very inexpensively determine with 100% accuracy how many students know the 50 state capitals, but it is harder and more time consuming to rate their ability to argue which of those 50 is the most deserving of that status, and why.

<sup>9</sup> Aldeman, C., Marchitello, M., & Pennington, K. (2017, June 27). An independent review of ESSA state plans. Bellwether Education Partners. Retrieved from <https://bellwethereducation.org/publication/independent-review-essa-state-plans>.



What may be important is having more rigorous assessments of the things we care deeply about and that sit closer to the student—assessments that are able to get at the nuanced and subtle things that are important to student preparedness for next steps in life and career.

Our systems need to promote a focus on things that matter, aligned with our most critical student outcomes and recognize when, in a system of constrained resources, we must prioritize the focus on the development of student skills and instructional innovation. Without this commitment to succeed on a few things, many believe we will fall short in our attempt to do everything else well.

Perhaps more than any other section of the report, this discussion highlights the fact that Connecticut may not be able to move forward in any meaningful way until the conversation about the tension between the old school-centered and new student-centered paradigm is addressed. On one hand is praise for the CSDE and its legislative framework—it should be commended for expanding its metrics to reflect successful schools and districts. The 11 indicators are a vast improvement over the one measure from a single test. Yet, on the other hand, student-centered advocates find there is very little evidence of many of the attributes that many agree are at the centerpiece of a successful graduate prepared for life, learning, and the work of the future. A question remains: If we cannot determine how to reward and recognize important student work in these areas, will there be very little systemic support for true innovation?

“It is a truism that we value what we measure and we measure what we value. What is the value behind innovation and student-centered learning if the outcomes of it are measured primarily by Smarter Balance and SAT?”

Nearly everyone agrees that an innovative student who is personally responsible, self-directed and interpersonally successful would be a preferable employee or partner to one who has perfect test scores but none of those skills. If Connecticut moves to grow the graduates of the future, will it then wrestle to expand the mechanisms of assessment and accountability, enabling the innovation in instruction and outcomes many seek?

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## Rethinking Teacher Evaluation & Measuring Instruction

“Imagine how our recruitment of future teachers would change if we were recruiting a cohort of learning leaders that was to be charged with creating a new generation of innovators, rather than a predetermined march through 1,000 vestigial content standards.”

### Connecticut's Act for Unleashing Innovation

In May of 2013, the state legislature passed the *Act*, stating that local boards of education may grant a high school diploma through a “demonstration of mastery-based or competency and performance standards, in accordance with guidelines adopted by the State Board of Education.” Fast forward to 2017: It’s not clear at the most basic level how many schools or districts take advantage of the Act. Anecdotally, it is thought, “not many.” However, we also spoke to a Superintendent who intentionally stayed under the radar with innovations, as calling them out (as one would do in invoking the Act) could kill a promising practice before it could prove its effectiveness. We don’t really know if people aren’t using the Act, need support to use the Act, aren’t innovating, or still fundamentally disagree with the measures for which they’re being held accountable. We do know that purposefully bottling up rather than unleashing innovation is a consequence of culture.



While instructional preparation, certification, and evaluation are all key to supporting student-centered learning, stakeholders repeatedly cited teacher evaluation as the area most pressing in terms of a needed change or policy intervention. **Despite millions of dollars and untold hours of human effort, many stakeholders felt the well-intentioned move toward uniform teacher accountability and evaluation practice is having little of its intended effect.**

In the current iteration, teacher evaluation system designs are heavily weighted toward an inspection model of accountability with only anemic attention paid to the mechanisms that we know effectively promote growth and improved professional practice. Evaluators struggle to check things off, tag evidence, fill out forms, and ensure compliance—versus nurturing insight and reflection or coaching for growth and gains in student preparation for the future. Such [checklists were created in other industries](#) for safety measures, to be used before going into surgery, battle, or flying planes. They were for cross-functional work teams—strangers, gathered to work together, checking their preparation and supplies. Checklists were a way to ensure supplies were gathered, instruments were on, and standard operating procedures were followed—to make these habit, in case of emergency.

In other words: to avoid catastrophe.

This is not the approach—or sole approach—we need in the classroom and may be why it hasn’t succeeded on scale to reach the heights intended. While relevant and allowing a common baseline, it is perhaps only that: a baseline. It is science and frame of teaching but not the full picture or art. Teacher accountability and evaluation may require something more than the “checklist” if we are to move beyond our status quo.

“We can expect more gains in instructional effectiveness if it were called a ‘teacher growth system’ and allowed evaluators to work on those high leverage indicators we know will have the largest demonstrable influence on student success.”

If the driving motivation of public education is going to be to create a graduate capable of nimble, self-directed critical thinking and learning, then we will need a generation of educators capable of designing instruction and assessment that can do exactly that. This means teachers must also be capable of nimble, self-directed critical thinking and learning that allows them to be a model for students. If there are observable behaviors we expect to see in students that reflect this vision, then teachers need to be able to offer feedback to continually progress toward that vision. Instructional preparation, certification, and evaluation should support that very set of behaviors in our future teaching force.

“How many teacher evaluation rubrics and processes have a mechanism for rewarding instructional risk-taking and spectacular failure? When properly reflected upon and learned from, these can be positive experiences for professional growth—but it is difficult to know how many teachers, if any, believe they have the room for that within their current instructional evaluation frameworks.”

Again: our teachers, like our students, rise and fall to the expectations we set in our policies. What we measure (and enforce) matters.

While many policies are neither universally embraced nor dismissed, stakeholders across this inquiry did express a need to remove unnecessary mandates, increase sensitivity to the challenges of implementing

mandates, and approach further policy-making with intentionality to support development of the critical outcomes we seek for our graduates. An important challenge for Connecticut is not only developing a more broadly shared vision of the future graduate, but a system that is more comprehensive and cohesive—*intentional*—in supporting its realization, from systems of assessment and accountability to curriculum and professional evaluation.

So how do we design this? How do we learn together, encourage and embed the policy and practices we need?

**OPPORTUNITY: Any policy that significantly impacts focus, capacity-building, investment, incentives, or mindsets can be re-engineered to support more student-centered innovation.**

## LEADING WITH LEARNING

Stakeholders articulated a critical need to experiment with and measure student-centered learning strategies that support the realization of many different graduate outcomes. As one stakeholder put it, many student-centered learning initiatives have taken flight, but *“there isn’t a systemic collection of ideas Connecticut is testing or measuring.”*

“There are pockets of brilliance, risk taking and innovation - but no coherence statewide.”

A bold learning agenda could stimulate curiosity, help prioritize the work, and link learning across individuals, teams, organizations, and broader networks toward achieving larger goals. Conversations overwhelmingly pointed to a need to elevate a statewide portfolio of innovations and experiments that could be aligned to accelerate all organizations’ learning in ways that could transcend any one organization—regardless of “pocket size.”

Instead of ten, thirty or 100’s of schools all working separately from each other, and in perpetual isolation from others wielding important expertise such as technologists, community or employers, collaborators could coalesce around specific, shared problems, and gather research. Together, they could learn what is known versus not known, for what student populations in particular contexts. Communities could deploy shared tools and protocols to bring discipline to inquiry aimed at measurable improvements in efforts to strengthen what is learned and accelerate the rate at which practices improve.

“We’re not aligned, we’re missing transcendence.”

An ecosystem in which we strive to gather rigorous, causal **evidence** about the elements and strategies comprising student-centered learning—and understand its effects for students from various backgrounds with varying learning needs—is one that serves our educators and students well. Attention to equity throughout the learning agenda is key.

“If you’re not careful, innovations can lead to more inequitable outcomes.”

Stakeholders also pointed to the need for support and time to gather accurate, meaningful data about the impact of their initiatives on student learning. There is often pressure to show outcomes immediately, which is unrealistic. Instead of employing more traditional measures, stakeholders will need to build support for the pursuit of a [progressive series of assessments](#): activities, processes, and then outcomes. This is key to growing innovation.

Stakeholders also note educators need R & D support. Bryk et al. (2011) who promote the [“improvement sciences”](#) note many of our current networks are characterized by individuals advocating preferred approaches, but with “weak mechanisms for directing deliberate action that cumulates in coherent solutions to complex problems.” In this regard, the researchers note educational R & D’s inability to produce improvement is the equivalent of a market failure.<sup>10</sup>

“I think the only thing harder than fostering innovation is scaling it. So many confounding factors and the support of all the various folks who have a part in school governance—administration, the central office, the board of education, local taxpayers, legislators— all have to line up behind it - and the more innovative the practice, the less likely that alignment is.”

Codifying and disseminating results that capture best practices and lessons learned from measurement is a high needs area. There is huge demand for roadmaps and blueprints. Despite the heft of standout networks like the League of Innovative Schools, at present, other networks are looser or more diffuse. Pockets of innovators don’t have a shared means of communicating, documenting, or disseminating the results of experimental pilots and practices. A focused and prioritized learning agenda with questions driving the efficacy of student-centered learning could help draw “rogue innovators and teams” into the light, and with them, much needed expertise.

“What vehicles exist to identify highly impactful practices?”

“Innovation in one town may as well be on the moon, and if they know about it, they don’t think it matters to them.”

“Technology moves way faster than bureaucratic layers, with everything watered down by committees. When we get there, technology has moved on.”

“We are the farthest from agile as you can be in K-12 and higher education. A change of course takes three years. You can’t be innovative if it takes that long to update your program.”

<sup>10</sup> Bryk, A.S., Gomez, L.M., & Grunow, A. (2011). Getting ideas into action: Building networked improvement communities in education. In M.T. Hallinan (Ed.), *Frontiers in Sociology of Education* (pp. 127-162). New York, NY: Springer Publishing.

More deliberately networked improvement communities<sup>11</sup> are critical if schools, districts, and other organizations are to embrace a new vision of the graduate. The best “rogue innovators” that are innovating in learner centeredness require a new level of supports than those educators trying to improve, but maintain, the school-centered system. If our aspirations for what we want schools to accomplish are to keep pace with the exponential growth in technology, we need to develop the necessary know-how to identify promising ideas and ultimately, to spread them much faster and more effectively. We need smarter systems and organizations capable of learning and improving around a central agenda in a well-defined paradigm.

**Opportunity: A learning agenda is a critical tool in shaping—and understanding—if the system we’re creating is responding effectively in service of its goals.**

## BUILDING CULTURE AND CAPACITY FOR EXPERIMENTATION

“Having pushed around the edges of educational innovation in Connecticut for 25 years, my perspective is that we are indeed the land of steady habits, and the general environment is pretty hostile to innovation. We talk about how we need to do it, but the attitude is you can innovate all you want as long as you get the same results with the same schedule in the same parameters following the same rules, etc. That leaves almost no room for true innovation. I remain positive moving forward, but I think this is a realistic assessment of the current state of affairs in our fair state.”

Change, while inevitable, rarely comes easy. Change beyond ourselves—to a small team or even within a family—can seem daunting. What about transforming a system and the mindset or habits of tens of thousands—with multiple policy levers that often pull in *opposite* directions?

This requires, fundamentally, a culture shift—one that’s already begun in other industries and across our economy and society. Beyond a vision of a future graduate and aligning policies and focus on a student-centered learning agenda, our discussions with stakeholders made it clear that Connecticut must build a culture and capacity for experimentation. No one we spoke to wanted to pursue innovation because innovation is important, but rather because innovation can help us overcome seemingly innumerable, intractable challenges to student success. Building culture and capacity for experimentation is directly linked to cultivating our graduates of the future.

“We’re much more opportunistic. The notion that we’ve got an innovation system? I wish we did but it’s not the way I see it.”

Innovating toward new outcomes requires a tolerance for risk, as well as a set of knowledge and skill competencies leveraged by individuals and organizations across the system. Research has shown that these competencies mirror what we seek to support in students. They need to leave with cognitive skills, yes. But they

<sup>11</sup> For an excellent discussion of Networked Improvement Communities and the Improvement Sciences, see “Learning to Improve,” a public lecture delivered at [University of Technology Sydney](#) on Nov 4th, 2015 by Professor Anthony Bryk, President of the Carnegie Foundation for the Advancement of Teaching.

also must be ready to navigate the realities of a college, career, and work life of the future. This will inevitably require constant improvisation, problem-solving, critical thinking, and a stomach for risk-taking. Remember: children born this decade will be in jobs that have not even been invented. They need learning spaces that allow what researchers at [MIT's Teaching Systems Lab](#) call “playful rehearsal.”

“We need to push ourselves to think about how we create pipelines to staff more entrepreneurial environments.”

One primary opportunity lies in how we prepare and support our teachers—the adults who most often model learning to over half a million of Connecticut’s children. Teachers, especially, benefit from explicit permission and support to innovate, with related processes and tools. They need to know what they’re trying to achieve (i.e., what does student-centered learning look like for individual students?), and to be able to measure it. They need a culture—supported by policy and practice, evaluation and training, even new networks and models—that allow them to take risks in their own teaching and learning. We heard from stakeholders that a sustainable infrastructure—not just for mastery-based or personalized learning for kids, but for continuous adult learning—is needed.

“It takes a long time to build risk-taking culture. And we’re not doing a good job sharing ideas.”

The truth is, we have an opportunity to set up educators for great success. The majority of what makes educators successful in typical classroom environments relates to student-centered learning. Certain [skills, knowledge, and characteristics](#) will take on more importance and emphasis in new models. This is particularly true as it relates to new mindsets and ways of working together as peers, to maximize chances for success. Many teachers excel with their own action research, but fewer work across classroom silos or traditional school boundaries (i.e., facilitating learning across and through the local community). Building capacity for innovation means supporting educators in prototyping and piloting new practices to learn what does and does not work for particular students in a given context.

“I think many people know the language of innovation—but the effective, regular, and systemic implementation of those skills is lacking.”

Like our students, our teachers and leaders need practice.

Stakeholders we spoke to recognize that improving our “innovation skillsets” won’t matter if our culture doesn’t support their expression. This was raised in relation to both teachers and leaders. On the matter of risk-taking, stakeholders noted our public discourse is greatly challenged. How can teachers or leaders take risks when many feel the system penalizes rather than encourages informed experimentation?

“We need space for vulnerability, honesty, and to dig into the meat of what we’re facing.”

This is, ultimately, a political and communal challenge. Our leaders—in government, school systems, school-

houses, community, and industry—are the ones that can provide the political cover and encouragement needed. Communicating publicly the urgency and rationale for student-centered learning, showcasing and explaining such models, is as vital as changing policy and practice.

“We need leaders who may not always be successful, but are fearless . . . people who are not afraid to break glass. Not just keep constituents happy. I would rather see a person fail because they’re doing big things than keeping the status quo.”

The definition of a risk-taking culture, indeed.

We need to give ourselves permission to take risks in areas we know are not serving all students well, continuing to exacerbate achievement gaps—no matter how you define these gaps. We need to engage each other and the public in that conversation. Our current system—the ship we’re all on—was designed in an industrial era. The factory model may “produce” more graduates than 100 years ago but the evidence has been overwhelming that it is not adequately readying them for the college, career, and work life of the future. A culture that can transform failure into growth and resiliency, and learning into a problem-solving (rather than a checked-box) endeavor, is crucial.

“You need trust, that everyone is growing, but everyone’s going to have a bad year.”

A student-centered approach, as shared in our earlier *Note to Reader*, understands and adapts to this reality. A reality we’re already facing. It is not an abandonment of high expectations but a rally to focus on *what* those expectations are and whether they are serving all our students.

A combination of culture and competencies helps us to challenge these invisible orthodoxies and mental models of education that have become ossified over time. Traditional approaches to things like schedules and seat time have become nearly immutable. A culture that encourages and recognizes innovation and supports skill building can illuminate and act on barriers to meeting students’ needs, while determining ways to upend history and habit’s hold on the system. Innovation can move from being the domain of a few “creative types” to becoming a [ubiquitous capability](#).

**OPPORTUNITY:** There is an opportunity to think anew about how systems and structures can behave to promote more experimentation, and be more systemic in cultivating related skills.

## Experimentation? With students?

In education circles, using the words experiment and student can raise alarms for very good reasons, particularly when thinking about designing learning for some of our more vulnerable communities. While not the subject of this report, we wonder aloud whether bringing such words to light and discussing what they really mean to different people can help build a supportive culture for innovation. If we can’t say experimentation, how can we support it?

According to [Oxford](#), experimentation is

The process of performing a scientific procedure, especially in a laboratory, to determine something.

The action or process of trying out new ideas, methods, or activities.

Common synonyms for experimentation include research, analysis, examination, and trial and error. We use those words throughout this paper, too.

Words associated with the opposite of experimentation include **easy**, **unchallenging**, **straightforward** and **undemanding**.



## LEVERAGING AVAILABLE RESOURCES TO CATAPULT INNOVATION

“How we choose to spend resources demonstrates our commitment to the status quo.”

Cities and towns across Connecticut have been affected by the fiscal debate that has impacted the work of State officials for months and hinged on one issue: how to solve [massive projected shortfalls](#) in state finances. Analysts say the cost of surging retirement benefits, debt, and other costs coupled with declining income tax receipts would drive state spending \$1.6 billion over revenues this fiscal year, a shortfall of 8 percent, unless adjustments are made. *And the potential gap reaches \$1.9 billion by 2018–19.*<sup>12</sup>

“The structure of K-12 may be at a breaking point.”

Across the board there is strong consensus that Connecticut is in dire straits regarding its state budget, which directly affects local funding through Education Cost Sharing and other entitlement funds. Many superintendents now struggle to keep the core, and some recoil from new ventures. There’s an expectation among many that people will spend time protecting whatever programming and staff they have at current levels, in such a fear-based state. If something isn’t a direct money saver, it will be an add-on after protecting the status quo. *“We’re not just resource constrained, we’re resourced-slaughtered,”* remarked one stakeholder.

“Everyone wants to invest in innovation, but no one wants to let go of what they’re already doing. What do we do less of?”

Let’s be clear: The funding situation is highly challenging. Yet opportunities for innovation occur with economic crises. One superintendent explains that the budget *always* comes down to constituent-based traditions.

Student-centered models, including those that are tech-and human-enabled come with costs ranging from things like hardware and software to planning, professional development, and professional services or technical assistance. Less commonly acknowledged costs come with time or resources needed for earnest efforts to collaborate and communicate with parents and community, align board policies to support new learning environments, or support a wholesale shift in the roles of key administrators, i.e. the Chief Academic Officer or Curriculum and Instruction teams. If these costs are prohibitive, particularly in current financial times, some will delay or forego experimentation.

Many others will keep moving forward. For those insistent on find-

**There won’t be more funding, things have to be different.**

“The budget gets cut up in pie sizes that reflect the influence of that constituency on the system. The total sum has to be worth more than the individual pie. What is more important, are people willing to reallocate resources? We’re going to have to struggle to face it. There won’t be more funding, things have to be different.”

<sup>12</sup> On October 31, after 123 days without a budget, Governor Dannel Malloy signed into law a bipartisan budget agreement.

ing ways to continue to innovate, collaboration can help decrease the costs and risks associated with building new student-centered models. And while there are costs associated with collaboration, and while not the same as having dedicated financial resources to spend, the sharing of expert frameworks, tools and the like can reduce costs, increase efficiencies, and most importantly, [expand possibilities](#). Most educators that collaborate around best practices not only accelerate the quality of their work, but collectively they are much better positioned to create and harness open education and other resources.


## National organizations supporting the shift to student-centered learning

There are many national organizations supporting the shift to student-centered learning. Many provide high quality open and free content and tools that expand teaching and learning possibilities. For example:

- **Open Up Resources**, a nonprofit provider of openly licensed curriculum for K–12 schools, [released its first openly licensed game-changing program](#) Illustrative Mathematics 6–8 earlier this year. Developed by Illustrative Mathematics, it aims to improve mathematics instruction in U.S. schools. The curriculum has been published as an Open Educational Resource under Creative Commons license CC BY, is available in both digital and print formats. Open Up also partnered with EL Education, a K–12 curriculum author, to design its new K–5 English language arts (ELA) core program. The free, full-course curriculum comes with student and teacher materials and features authentic texts at its core.
- As more educators across the country are starting to explore mastery-based learning, they are asking a common question: “How do I integrate the data from all these different learning systems so I can get a clear picture of where my student is in her learning?” [MasteryTrack](#) addresses this fundamental challenge by offering a standalone system whose only purpose is to consolidate, organize, and display data about student learning progress. Even if teachers and students use multiple or changing learning systems, student learning objectives and mastery thresholds don’t change very much. Since MasteryTrack provides these and stores the data about student learning progress, teachers and students can change learning systems any time because the mastery data is stored in a standalone system. Sign up is free.
- **The Learning Accelerator**, a national nonprofit catalyzing the transformation of American K-12 education through blended learning, recently expanded its collection of resources designed specifically for educators who are implementing blended and personalized learning in their classrooms. The [Blended and Personalized Learning Practices at Work](#) project offers a free, open, and shareable bank of practical teaching and learning strategies that help to bring personalized learning from theory to practice.

**We have to move away from the mentality that we must personally invent every tool and every practice ourselves.** For example, *tech-enabled* mastery based learning specifically calls for collaborative problem-solving and solution building as most learning systems integrate data about student progress in a way that impedes integration with other learning solutions. Increasingly moving toward open collaboration, open resources, sharing tools, and standardizing parts of practice or models that can be replicated, while leaving others open to customization, is important.

Networks of people working together are key to adoption in healthy or challenging financial times. Networks are the primary vehicle allowing human-scale and human-centered approaches to teaching and learning spread in a way that ensures quality, rigor, and fidelity.

 **“We need new ways of working together.”**

Further, some stakeholders believe that there *is* funding to support innovation, and that philanthropies can especially support both the supply and demand for new models by designating funds that support their development, testing, and implementation. Funding networks of innovators who are working from the same learning agenda can increase these models’ chances of continually improving and scaling over time,



helping drive investment and reallocation of capital based on evidence of success. Coordinated investments in an integrated portfolio of experiments across the ecosystem was raised as a way to maximize system-level impact and hence philanthropists' return on investment. Several philanthropies have a track record of investing in student-centered learning.

“There is a lot of talent in Connecticut that is not being used—pocketed creative energy that's not being tapped to advance student-centered learning. By ourselves, this isn't possible. Together, it is possible.”

Out-of-school and/or community-based learning spaces were raised as places that are ripe for being able to develop and test student-centered models of learning in a lower-stakes atmosphere than accompanies more traditional schools, in ways that present business model alternatives. One obvious but often overlooked example comes in the more than 200 town and association libraries that currently provide programming, ties to local schools, and technology resources to support extended-day learning. Libraries serve as centers of equity, providing a fundamental set of resources that vie against the disparities that accompany socioeconomic differences.

One approach that deeply advocates for a student-centered system that redefines community-based learning is [ReSchool Colorado](#). ReSchool is a multi-year initiative to design and launch a new education system, and is one example of education leadership, communities, and parents working together to coordinate resources in new, efficient ways, going beyond the diminishing resources and learning opportunities available in a traditional classroom while empowering learners and their families to take advantage of the opportunities available in a new era.<sup>13</sup>

“There is a movement of people that is still taking shape. More and more people of different walks of life are getting focused on this [personalized learning innovation] nationally. For example, there are tiny collaborations of Colorado homeschoolers doing really interesting things at \$1,200/year per kid. What will happen as that stuff spreads? What if a student could take off one day a week, and get access to a really cool micro-school?”

Central to ReSchool's vision is the notion that learning occurs in many places, both within and beyond the classroom. They believe every child should have access to a variety of rich learning experiences regardless of their socio-economic background, thus the initiative works to close the gap between families who can afford, for instance, high quality afterschool and summer experiences for their children, and those who cannot. Bucking a one-size-fits-all mentality, ReSchool's current pilot allows students to uniquely gain competencies that matter in the real world upon graduation. They opt into Learner Advocate Networks where adult Learner Advocates play an essential role in building deep relationships with parents and their children to help them build their agency and capacity to make informed educational decisions and navigate a rich landscape of learning opportunities. ReSchool's pilot challenges legacy notions of funding, governance and accountability, and excels at tackling barriers that exist to bringing students and families into the innovation process and testing new concepts with them.

“A lot of resources tend to be overlooked because the ecosystem lacks connectivity.”

<sup>13</sup> Reschool Colorado (2017). Education designed for today. Retrieved from <http://reschoolcolorado.org>. Website contains excellent source material related to the initiation and ongoing development of the ReSchool system.

Connie Yowell of Collective Shift and Founder of LRNG also thinks it's time we "think about our communities as [ecosystems for learning and opportunity](#), using new tools and technologies with a shifted mindset."<sup>14</sup> Yowell describes a shift taking place with the LRNG [mobile platform in relation to](#) Uber as a platform that puts people together, where drivers don't have to start their own companies to work, and they are able to use the Uber platform to work and structure their activities serving users by connecting the two in an extremely friendly way. LRNG is helping point students to new opportunities and increase their engagement in learning, no matter its locale.

In the upcoming book *Who You Know* (Wiley, 2018) by Julia Freeland Fisher, the author points to innovations across K-12 and higher education that are beginning to open up new channels to strengthen students' access to [relationships and the world of work](#).<sup>16</sup> Freeland Fisher points to tools like [Nepris](#), a platform that connects industry professionals into classrooms virtually to bring real-world context to curricula; new online mentorship models like [iCouldBe](#) that offer online mentoring that brings virtual volunteer professionals into schools serving at-risk middle and high school students, and [Student Success Agency](#), which connects high school students to their own personal online "agent" who helps guide them through the college application process. Connecticut's own Doorsto-Explore.com provides a direct line for our state's high school students to learn more about STEM careers, connect their interests to specific program offerings in colleges across the country, and pursue internships with Connecticut firms looking to invest in tomorrow's workforce. These and other technology tools can help students expand their networks and enlist multiple adult supports in ways that help bring twenty-first century skills to life.

## Untapped potential: Engaging all Connecticut youth (September 2016)

*Untapped* reports that Connecticut has the second highest percentage of nationally ranked public high schools of any state. However, challenges still abound:

“And while it has long been clear that Connecticut continues to struggle with a persistent achievement gap that also ranks among the nation's largest, it is easy for many to imagine that the challenge of disengaged and disconnected youth in Connecticut is a niche issue, affecting a small number of communities or only certain types of students. To the contrary, the data show that disengagement and disconnection present a large-scale issue in Connecticut, and that it is also a powerful economic and equity issue. The reality is that there were 39,000 disengaged and disconnected high school youth in Connecticut in the 2014–15 school year, a figure that is equivalent to 22% of high school enrollment in the state.”<sup>14</sup>

“We lack the material resources, but we have a great mind and ability to understand that this [student-centered learning] is incredibly important, and we can find ways to move forward without funding.”

**OPPORTUNITY: There are many available but underutilized or “not yet realized” resources in Connecticut, and elsewhere, awaiting ignition.**

<sup>14</sup> Libsyn (2017, February 16). Connected learning, deconstructed, with Connie Yowell of Collective Shift. Retrieved from <http://lindabuchner.com/2017/02/connie-yowell/>.

<sup>15</sup> Parthenon-EY Education practice (2016). Untapped potential: Engaging all Connecticut youth. Retrieved from [http://cdn.ey.com/parthenon/pdf/perspectives/Parthenon-EY\\_Untapped-Potential\\_Dalio-Report\\_final\\_092016\\_web.pdf](http://cdn.ey.com/parthenon/pdf/perspectives/Parthenon-EY_Untapped-Potential_Dalio-Report_final_092016_web.pdf).

<sup>16</sup> Fisher, J.F. (2017, September 28). Designing for Equity: Reshaping student networks in K-20 education. Retrieved from <https://nextgenlearning.org/articles/reshaping-student-networks-in-k-20-education>.

# Learning Assets Across Connecticut

There is a movement afoot for change. Across a constellation of efforts, there are many promising practices, resources, and cultures to build on. Some of these “assets” may have already been activated, others not. Some will be more or less impactful upon analysis—yet they may hold potential in addressing the challenges and leveraging the opportunities outlined in the previous pages.

While not exhaustive, **we’ve compiled a sample** of some of the most high-profile and/or interesting work in progress. Many, in their own way, are on the path to resolve the challenges we outlined in section one. Some of the work and several voices we highlight are already beginning to coalesce around a vision for innovation and our next generation of graduates. Together, these efforts proffer the substance we need to support student-centered learning in reaching every child.

“Innovators learn to see their organization and the world around them as a larger portfolio of skills and assets that can be endlessly recombined into new environments and opportunities for children.”

Individually, each asset is important—the stellar thirty-district network focused on mastery-based learning; the Achievement First/Transcend-designed charter school radically innovating on student ownership of learning; the state’s Innovation Places Grant Initiative helping establish urban districts that promote high-tech business growth; the 80+ education technology companies building the next generation of digital tools, the twenty higher education institutions that have signaled support for proficiency-based transcripts, among them universities like UCONN that are contributing to the new Learning Sciences to advance our understanding of the learning process; the community-based organizations pioneering open-walled approaches to social and authentic learning; and the countless advocates of children, among them ConnCAN’s 1300 dedicated parents and families. But, as of this moment, the whole is less than the sum of its parts. In our final analysis, we believe it’s the integration and recombination of these assets that can create a system of education that is worthy of the children we serve.

Transformation from old models of education delivery to a new student-centered era will require a range of competencies, resources, and influence that can only be obtained from a broad coalition of stakeholders working together—those currently inside *and outside* of the K-12 education system.

What assets exist in Connecticut, including and beyond K-12 institutions, that may help develop the graduates of the future and the outcomes we seek?

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## K-12 Schools, Networks, and Options

Connecticut’s K-12 schools and districts bring education expertise and capacity to our system and can uniquely influence culture and practice. Efforts such as the Alliance Districts—30 of the lowest performing

districts, serving 410 schools and over 200,000 students—represent an incredible opportunity to leverage student-centered learning and ensure that inequity does not follow. Districts—particularly those pioneering mastery based learning with the Great Schools Partnership provides evidence that mental models of education needn't be stagnant. [These and other pioneers](#)<sup>17</sup> use every tool at their disposal to challenge traditional assumptions, namely assessment and seat time. These efforts provide an experimental space for innovation, but also remind us of the expansive challenge of scale. Connecticut also has a number of students enrolled in non-traditional public schools, with nearly 10 percent of all 539,000 public school students attending either a charter or unique magnet program. Many of these schools thrive on their connections to community-based learning. Independent Schools also provide unique communities that are not only local, but national and international.

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## Education Technology Infrastructure, Tools, and Supports

Unlike other states that separate the interests of educational technology across multiple agencies, Connecticut has a consolidated policy and program lead in its Connecticut Commission for Educational Technology (CET), representing the interests of K–12 schools, higher education, and libraries. The 19 members and executive director represent a think tank of subject-matter experts advocating and providing solutions for its constituents. CET recently released its [2017–22 Goals and Plan](#) for the state, with eight core initiatives that benefit Connecticut's schools and libraries.

The Connecticut Education Network (CEN), governed by CET, connects all public school districts—the only network in the country to accomplish this feat—at or above the standard of 100 Kbps per student. This connectivity backbone supports significant growth in district 1:1 computing initiatives, spurred by Connecticut's commitment to online, adaptive testing. CET is also developing a Digital Equity Toolkit to help communities get learners of all ages online outside of school, scaling the role of technology in student-centered learning.

To support the efficient and more effective use of educational technology, CET launched the Connecticut Educational Software Hub in August 2017. The site, operating on the LearnPlatform, allows educational leaders to share efficacy data across a state and national network of peers, leading to smarter expenditures and measurement of educational technology. The site also serves as a privacy registry, providing a list of software developed by companies that have demonstrated compliance with the state's student data privacy laws. The Hub significantly reduces the compliance burden on districts and helps ensure that schools do not respond to the demands of state statutes by avoiding the use of

### Connecting Connecticut's Schools

Celebrated by K–12 technology experts nationwide as a standard bearer of capacity and affordability, the Connecticut Education Network (CEN) remains a critical asset to the state's learning community:

- **Connectivity:** Provides high-speed fiber connections to every district and most libraries and universities in the state, connecting 800,000 students, 50,000 educators, and 1.5M library cardholders
- **Value and Sustainability:** Actual costs to operate the network versus market value for the connectivity, security, and availability services delivered represents a 500% return on investment
- **Availability:** Burstability well beyond subscribed connectivity levels as well as protections against denial of service attacks provide unparalleled availability to CEN members

<sup>17</sup> See CompetencyWorks for deep exploration of competency education. CompetencyWorks is a collaborative project in which iNACOL is the lead organization with project management facilitated by MetisNet.

technology that can enable and scale personalized, student-centered learning.

Through the Commission, the State has joined [19 other states](#) in its adoption of the GoOpen framework for leveraging and sharing high-quality, free, and openly licensed digital educational materials (open education resources). The launch of an OER repository will support this movement and enable districts, institutions of higher education, and libraries to benefit from collections shared across these 20 states. In addition, a number of professional and advocacy groups in Connecticut support the effective use of technology to support and scale personalized learning, including regional education service centers (RESCs) that offer volume purchase discounts and professional development.

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## Entrepreneurs and Start-Up Culture

[The global edtech](#) and smart classroom market is expected to reach \$93.76 billion in 2020, up from \$43.27 billion in 2015 with a compound annual growth rate of 16.72%.<sup>18</sup> States like Rhode Island in particular have been working to grow and attract edtech companies to create public/private wins alongside Silicon Valley and other heavyweights—but leading with their state’s unique assets. Meanwhile, Connecticut has begun to chart [its own advantages](#).

Connecticut at-a-Glance:

- A small, compact state
- A financial capital of the nation
- Privy to an abundance of private R & D
- Home to world-class universities, including Yale which ranks #4 nationally in the percentage of its alumni who have attracted venture capital
- Lower cost of real estate relative to Cambridge and Silicon Valley
- In a prime location between NYC and Boston
- Many empty buildings—and legacy cities—ripe for redevelopment
- A new Innovation Places initiative poised to generate additional collaboration
- A potential collective political force and leadership that could stem from multiple sectors, versus individual actors and institutions, is materializing

The edtech private sector attracts resources and talent. It brings start-up culture to its endeavors; smart risk-taking is part and parcel to their everyday routine. Entrepreneurial companies [create an environment](#) that fosters creative thinking, provides a safe place to fail, stimulates collaboration, and knows feedback is essential but must be shared to inspire creative thinking, not halt it. Where this culture exists in tandem with K-12 efforts aimed at experimentation, it *could be* helpful in building a new combination of culture and capabilities to challenge the invisible orthodoxies that prevent breakthrough innovation in education.

Private sector collaboration—especially as it relates to new tools, data systems, and learning systems—may be critical to student-centered learning. Despite progress, however, too many tools are designed for the old model of education, fall short of meeting users’ needs, or are inoperable with other tools. Schools, districts, and community organizations, however, are decentralized and very difficult for developers to reach. Deeper collaboration is critical in building products and services that are designed for student-centered learning—as opposed to those that preserve the status quo. Connecticut’s 80+ edtech companies present an opportunity to boost learning and

<sup>18</sup> Fourth Economy Consulting (2017). Rhode Island Edtech feasibility study and cluster strategy. Retrieved from <https://fourtheconomy.com/wp-content/uploads/2016/08/FINAL-RI-EDTech-Report-Web.pdf>.



the economy, and other firms could be attracted to the state as it continues to elevate its supportive culture.

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## Academia and Research

Academia proffers many assets to the K-12 arena and beyond. It offers technical knowledge, the capacity for measurement and evaluation, and is the biggest player in educator preparation. Higher education also brings and attracts resources of its own, whether by championing R & D grants or whole programs devoted to innovation. Connecticut is home to a vibrant network of community colleges, and it boasts some of the best universities in the world—including Yale and its School of Management, and the University of Connecticut and its Neag College of Education.

Neag itself is conducting research to understand how to effectively measure student growth and mastery, and its scholarship focuses on Equity and Social Justice, STEM Education, Creativity and Innovation, and Educator Quality and Effectiveness. UConn is also home to Greenhouse Studios—who are breaking new ground in reframing scholarly communications through design-based, collaboration-first approaches to the creation and sharing of knowledge. This effort could be critical to “dissemination” of best practices given the disconnect between educators and scholarly research. This part of the ecosystem is uniquely positioned to contribute to the new Learning Sciences that advance understanding of the learning process and the design of innovative learning environments while also providing expertise in the Improvement Sciences that could support more comprehensive cross-sector solutions such as those bridging new educator practices with much needed technologists’ product and service innovations.

A plethora of initiatives, expertise, and research statewide could fuel student-centered innovation, ranging from the Middlesex Community College Center for Civic Engagement which connects with local, national, and global organizations and partners to identify new and unique learning environments outside of the classroom to [Sacred Heart University’s](#) Welch College of Business Problem-Based Learning Lab, an experiential learning program designed to expose students to real-world business problems requiring real-time applied solutions.

Last but not least, twenty of Connecticut’s institutions (in addition to others throughout New England) have signaled [support for proficiency \(mastery\)-based learning](#), stating unequivocally that students with proficiency-based grades and transcripts (as will likely result from student-centered innovation efforts) will not be disadvantaged in admissions in any way. Demand for mastery based learning in particular, with increasing alignment among K-12 and higher education, could lead to significant collaboration with edtech developers who create tools and technologies to enable and scale these new approaches.

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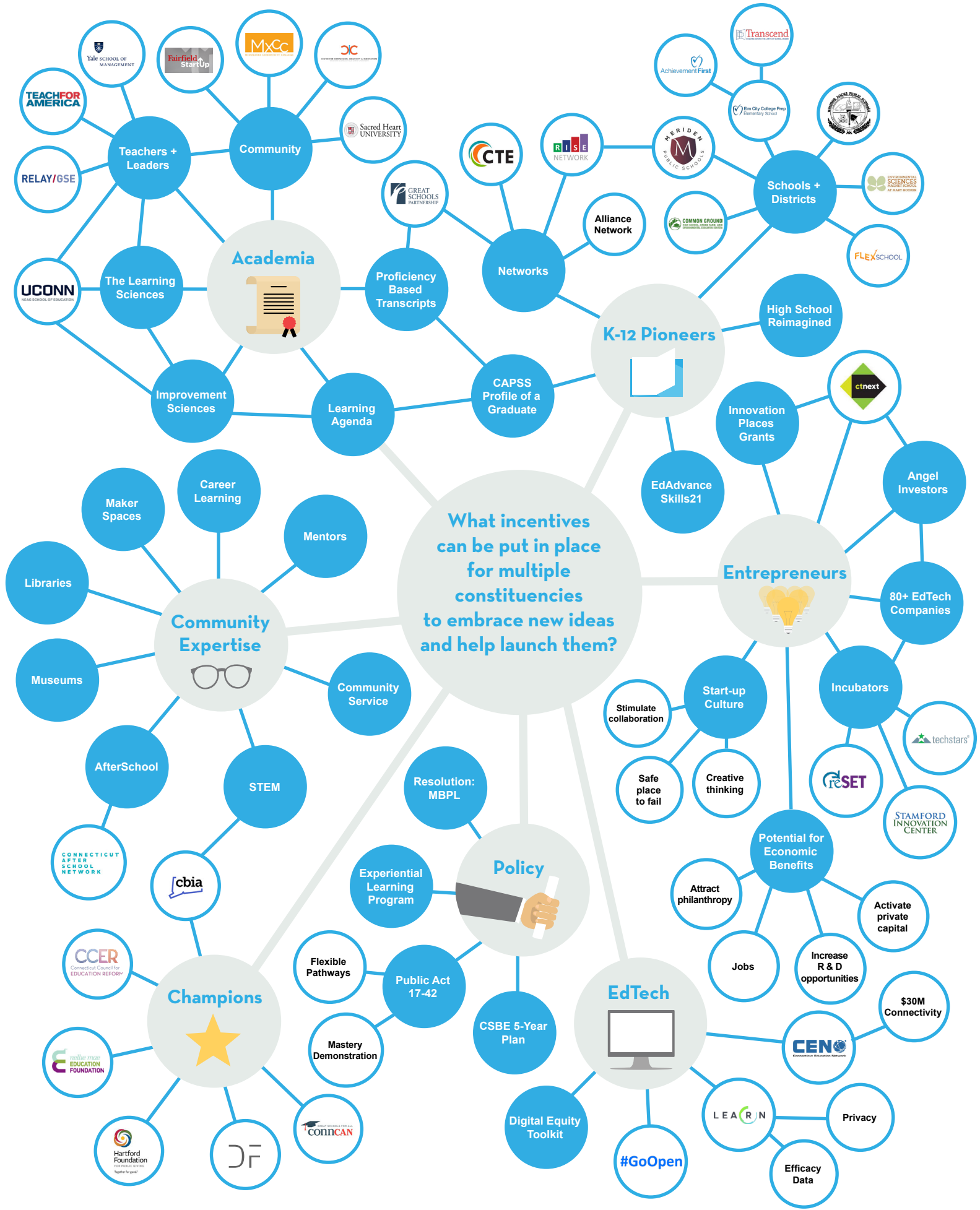
## Community-Based Learning Opportunities

Community-based learning is social, creative, and authentic learning that engages and leverages culture and new kinds of expertise.<sup>20</sup> Through [“open-walled” approaches](#), students learn in local landscapes with diverse and community-based educators, developing valuable skills and dispositions critical to future success. By engaging community, more adults experience ownership to improve learning and to support students in developing vital social capital. For many of our most vulnerable students, equalizing social capital in meaningful ways is arguably more important than many other things we focus on in our current dialogue around equity.

<sup>19</sup> Questions derived from UNICEF (2012). Innovation Labs A Do-It-Yourself Guide. Retrieved from [https://www.unicef.org/videoaudio/PDFs/Innovation\\_Labs\\_A\\_Do-It-Yourself\\_Guide.pdf](https://www.unicef.org/videoaudio/PDFs/Innovation_Labs_A_Do-It-Yourself_Guide.pdf).

<sup>20</sup> For an excellent induction to *Place-Based Education*, see GettingSmart at <http://www.gettingsmart.com/2017/02/what-is-place-based-education/>.

# Visualizing new possibilities for collaboration and performance<sup>19</sup>



Leveraging community-based opportunities may also help provide a space for risk-taking, given the ability to innovate outside the traditional system. Community organizations—many free from education’s traditions and bureaucratic constraints—allow an ideal way to experiment with new methods and a safe place for educators to try things outside of the auspices of the formal system. **They also provide fertile ground for experimentation with mastery-based assessments and credentialing systems in particular.** The community-based learning field, however, is decentralized and hard for technology developers—who may be of service here—to reach.

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## Public Policy

From the Governor’s Office to the Legislature, there is ample opportunity to better understand and respond to students’ needs. However, Connecticut has taken positive steps under the current system. Among the highlights are the 2017 Connecticut State Board of Education’s resolution that encouraged every district to give serious consideration to educational transformation by engaging in personalized and mastery based learning (PMBL)—and the Board’s Five-year Comprehensive Plan (2016–21) that includes multiple actions meant to strengthen and expand resources for districts to design and implement PMBL.

Policymakers and government agencies can go much further, however, in rallying a vision of the future graduate, and re-engineering policy to meet those demands. It can likewise push forward initiatives that leverage multiple public and private assets, including funding and incentives for collaborations among entrepreneurs, universities, K-12 and community-based learning providers. Dollars for innovation tied to cross sector collaboration could have the effect of supporting many kinds of entrepreneurs simultaneously, providing important depth and scale to policy interventions.

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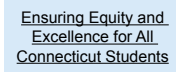
## Business and Industry, Nonprofits, and Champions

Advocacy brings together our collective, diverse voices for change. Like policy, advocacy efforts provide an intentional direction for our values. Organizations like the Connecticut Council for Education Reform, now under the umbrella of the Connecticut Business and Industry Association, is working to narrow the achievement gap. Others like ConnCan work to give all kids access to great public schools and engage over 1,300 parents and families in authentic community collaboration. The range and reach of these organizations bridge policymakers with community, ideally in a dialogue and change informed by each other. Voices of all stakeholder groups must become part of the ideation, development, and graduate “improvement” process—especially business and industry that cannot afford to passively “receive” graduates and expect that their talent needs will be fulfilled. Given the complexity of the change needed, collaboration on talent issues is no longer a nice-to-have but rather [a necessary strategy](#). If Connecticut focuses its direction on a new level of outcomes for its graduates, these and similar partners are critical to building a public will and a means for action.


Beyond business there is the existing network and specialized experience of nonprofits. Collaborating nonprofits such as Nellie Mae, Dalio, and others bring to the ecosystem expertise, outreach, and resources, and, in some cases, promising practices. Funders like these and others have an opportunity to support deepening the alignment among the state’s organizations—when investing in a new level of student outcomes and equitable education opportunities for all.



# Assets at-a-Glance: Version 1.0<sup>21</sup>



Ensuring Equity and  
Excellence for All  
Connecticut Students



<sup>21</sup> Assets are listed in the appendix where each is briefly described.

Multi-sector partnerships and collaboration, when they leverage the expertise of each partner in a complementary manner, are essential to implementing scalable solutions to the skills-development challenges our students face. There is a need for bolder leadership and [strategic action](#) within and across sectors.

# Recommendations

Connecticut has the opportunity to promote alignment and shared outcomes among these diverse groups and organizations. We can clarify priorities and enact trade-offs to focus the energies and capabilities of a breadth of change agents. Together, we can advance student-centered learning and achieve a new level of college, career, and future readiness for all students.

## RECOMMENDATION 1:

**Develop a common vision of student mastery by the conclusion of high school.** The vision would not be a set of prescriptive standards that risk becoming irrelevant or ignored in short order. A common vision would articulate a goal for all learners exiting secondary school to be truly ready for college, careers, and life. Students, their parents, higher education, community, business and industry leaders and others would co-develop and champion this vision, bringing their respective expertise, and helping each change agent get clearer on the opportunities and connections among their various roles. Developing a common vision of the graduate would clarify the need for new outcomes from the system, and provide a shared goal to assist inter-district and cross-sector collaboration in seeding and growing more powerful forms of learner-centered innovations. Graduate profiles, signaling new sets of competencies, can be leveraged to transform the human capital, systems, structures, processes, and culture that support student learning in the modern era.

## RECOMMENDATION 2:

**Use this new vision to drive and inspire development of an intentional framework and set of principles that direct policy, statewide and locally, in recognizing different learners and how they can be supported in their pathways to success.** This work would be shaped by pioneers leading the way. The framework would support the modification of policy based on the most critical goals for future graduate success—while paying special attention to the culture and conditions created and policies’ often unintended consequence of quashing innovation. Everything should be on the table, from more entrepreneurial forms of educator recruitment and development to the present systems of assessment and accountability. Central to this endeavor are several questions: Are we measuring what matters the most? What tradeoffs are we willing to make regarding reliable but outdated student benchmarks—versus measures of the most critical goals for future graduate success? What incentives can be put in place for multiple constituencies to embrace new ideas and help launch them?

The state should use a wide-angle lens and public and private partnerships to create incentives that bring together multiple sectors like business, academia, community and entrepreneurs with K-12. This will accelerate experimentation, measurement, and the creation of digital tools supporting student-centered innovation that cultivates the skills that our children will need to find continued success. Incentives tied to cross-sector collaboration could have the effect of supporting many kinds of entrepreneurs simultaneously, providing important depth and scale to policy interventions. Most essentially, such direction and collaboration will leverage well the resources at hand.

### RECOMMENDATION 3:

**Create a jointly owned “innovation lab”<sup>22</sup> that distinguishes between education reform that increases the efficiency of the system we have, versus approaches to transforming it.** The lab would act as a catalyst for a broader research and development movement.

In an effort to create space for student-centered system advocates, the lab would release educators and other change agents from the auspices of the standards-driven system in exchange for new, negotiated accountability. Collaborators in the lab would support development of learning environments that are intentionally designed to serve the needs of a wider range of learners, and where success looks different for each child.

The lab would seed mechanisms that make knowledge gained around innovation publicly accessible. It would prioritize openness as an approach to solving problems, as well as build and borrow digital tools and content that is free and open source, able to be shared and adapted by others. The lab’s work would be guided by a collaborative learning agenda that draws on the learning and the improvement sciences rapidly increasing our understanding of what motivates humans and helps them improve their skills.

### RECOMMENDATION 4:

**Enact a campaign to identify and amplify the work of cross-sector student-centered pioneers that showcase the graduate of the future.** Fear of failure paralyzes growth in adults just as it does our learners—but we can build a culture that recognizes

***it’s not our mistakes that lead us to success, it’s risk-taking.***<sup>23</sup> We need to share the stories of people who take smart risks in the name of unleashing successful learners and who can inspire others to push the limits of possibility.

The campaign would develop a threshold for critical and rigorous dissemination of practices and models—distinguishing between reforms to the current system and the creation of a new one. New avenues to communicate the value of this work across sectors would be forged. Central to this campaign would be the voices of learners themselves. The campaign would also help develop and refine a lexicon around the future graduate and student-centered innovation. It can launch a conversation in earnest about the need *to risk* and ways we can build our collective capacity and resiliency to do so. Innovation can shift from being the domain of a few “creative types” to becoming a ubiquitous and recognized capability—but we need strong examples.

### RECOMMENDATION 5:

**Identify and analyze untapped and unrealized resources that exist in every corner of Connecticut, in regional and national networks, and online.** Both the public and private sectors have a crucial leadership role to play in facilitating change, including

investments in ideas, people, and technology— especially in supporting ground-breaking work in learner centered education that fuels the realization of the high school graduate the state and the world needs. Rather than looking at the current and projected financial challenges as an excuse to avoid needed change and action, we must redirect our precious resources, and be more strategic in refusing to waste our energy on initiatives that won’t ultimately make a difference. Our traditional, centralized, and risk laden resources will not be enough—we must pursue promising strategies, including new partnerships, co-innovation, and work across sectors to share and create the open resources, tools, and practices that these times demand.

<sup>22</sup> An innovation lab, including the specifics related to the identification of a convener or conveners, model of governance and material supports should be the subject of further discussion with an increased diversity of cross-sector collaborators.

<sup>23</sup> Tredgold, G. (2016, May 17). 5 Ways To Encourage Smart Risk Taking. *Forbes*. Retrieved from <https://www.inc.com/gordon-tredgold/how-to-promote-a-culture-of-smart-risk-taking.html>.

## IN CLOSING - IN PARTNERSHIP

The recommendations in this report point to substantial shifts in thinking, policy, and practice that will need to occur over time to drive the quality and depth of student-centered learning in

Connecticut. They are intended, without being over-prescriptive, to collectively invite and guide leaders and leadership organizations to identify and pursue systems and structures needed to ensure equally high academic and social/emotional outcomes for all students— so that all students are prepared for college, career, and life in an increasingly dynamic world.

Do you have interest in contributing to this shared vision? Is your organization, school, or just independent mind already working on frameworks and solutions we have addressed here or may not know about yet? If so, please share your thoughts and—importantly — resources you can bring to bear. Changing mindsets and systems to support student-centered learning will only happen through open, healthy partnerships that start and end with the interests of learners and educators across our great state. Please contact us, and let's see what we can do together.

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# Appendix

## CONNECTICUT-BASED ASSETS FOR TRANSFORMATION (VERSION 1.0)

### K-12 Schools, Networks, and Learning Options

#### [AF Greenfield Model](#)

[Achievement First](#) (AF) operates a 11 high-performing, college-preparatory, K-12 public charter schools in Connecticut (and 20+ more schools in New York and Rhode Island). In the 2017-18 school year, the *AF Greenfield Model* began serving students in [Elm City College Prep Elementary School](#) in New Haven, CT. Greenfield schools provide rigorous, high-quality instruction within a nurturing school community focused on developing self-motivated learners, problem-solvers and leaders. Students benefit from rigorous goal-setting, student-driven community practices, more small group learning, greater access to technology, and deep and meaningful enrichment and expedition opportunities. [Transcend](#) co-founders Aylon Samouha and Jeff Wetzler partnered with AF to lead the multi-year effort which shaped the Greenfield model.

#### [FlexSchool](#)

FlexSchool in New Haven is a 6-12 independent micro-school with small group classes that supports gifted students with learning disabilities and executive functioning challenges who thrive in a discussion-based, socially collaborative environment. FlexSchool's faculty focuses on critical thinking in all areas of learning; a "toolbox" concept emphasizing how to learn rather than an "encyclopedia" concept emphasizing specific material. FlexSchool is an accredited school providing a high quality, discussion-based, experiential educational experience for students who want more. FlexSchool also offers an innovative live online learning interface, Cloud Classroom.

#### [Environmental Sciences Magnet School at Mary Hooker](#)

The award-winning Environmental Sciences Magnet School serves pre-Kindergarten through grade eight classrooms embracing 21<sup>st</sup> century learning through the use of technology, minds-on problem solving, and theme based instruction to meet the needs of all students. Programs include the use of resident scientists and state-of-the-art facilities providing a lighthouse example of an innovative school design. The school houses an aquatics laboratory, a vivarium where schoolchildren raise monarch butterflies, a planetarium with a 28-foot digital projection dome, and a waterfall that flows into a 3,600-gallon indoor pond. Aligned to Common Core State Standards, Next Generation Science Engineering Standards, and Connecticut's state framework, the school has been recognized by district, state, and national agencies including the Connecticut Department of Education, the U.S. Department of Education, Magnet Schools of America, ConnCAN, and Achieve Hartford.

#### [Common Ground's Outdoor Laboratory for Learning](#)

Charter school Common Ground mobilized an urban farm within the City of New Haven as a laboratory for learning. Teachers embed site-based learning experiences in traditional academic courses. Students in Algebra 2 monitor pH of water and soil on site, building their knowledge of logarithmic scales, while also practicing data analysis, visualization, and presentation. Common Ground is now ready to work with other urban public high schools and this year host a series of learning exchanges focused on building a community of practice among these like-minded schools. Learning exchanges focus on teaching cities; authentic assessment moving toward mastery-based grading; city math to build culturally relevant math instruction to tackle urban problems; and developing school-wide strate-

gies to promote student leadership.

[\*\*Montessori Magnet School\*\*](#) offers a public education for students ages three to twelve. The school's Montessori philosophy of individualizing instruction for all children attracts students from across Greater Hartford. Its pre-school model, that involves child-directed, freely chosen activity and academic content, is recognized for elevating and equalizing child outcomes among subgroups.

### [\*\*Side By Side's Parents as Teachers Program\*\*](#)

Side by Side's Parents as Teachers (PAT) program collaborated with Rehabilitation Associates of Fairfield and a Birth-to-Three agency. Together, they planned and conducted 32 bilingual early learning groups with 12 families. These play-and-learn groups offer activities to promote speech and social development for children with developmental delays and assist with referrals for further evaluation. With the Spanish-speaking population growing in South Norwalk, Side by Side offered 24 free Adult English as a Second Language (ESL) classes on Saturday mornings and served 15 adult English Learners. The school collaborated with social service organizations to promote school-wide and community events providing translators and free childcare. This partnership and comprehensive approach to early learning provides personalized learning intervention model in this ecosystem, particularly for second language learners and their families.

### [\*\*EdAdvance Skills21\*\*](#)

The Skills21 program operates out of EdAdvance, one of Connecticut's six Regional Educational Service Centers (RESCs). A nationally known leader in digital learning, Skills21 is an exemplary model for delivering STEM, capstone and related 21<sup>st</sup> century skill achievement through a challenge-based and highly personalized blended learning curriculum model. Since its founding, Skills21 has earned significant recognition and funding from the United States Department of Education's Investing in Innovation Fund, the National Science Foundation, the Nellie Mae Foundation, as well as the Spencer and William T. Grant Foundations. Skills21 delivers a flexible, affordable, and road-tested model for driving student success using a variety of learning technologies. Nearly a decade of research has demonstrated that Skills21 programs increase academic achievement, leads to improved 21<sup>st</sup> century skills, and help students collaborate with peers from different backgrounds.

### [\*\*CAPSS Community of Practice for District Leaders on Student-Centered Learning\*\*](#)

Leading a district to student-centered learning presents leaders with interesting opportunities, new challenges, and, on occasion, unique adventures. This Community of Practice provides superintendents and district leaders an opportunity to share and engage in 1) a presentation regarding a specific implementation need identified by participants; 2) a presentation of a dilemma by a participant for feedback from the participants; and 3) participant updates on the implementation process.

### [\*\*League of Innovative Schools\*\*](#)

The League of Innovative Schools is a regional professional learning community open to any New England secondary schools—including charter schools, private schools, and career-and-technical institutions—committed to educational equity, student-centered learning, and ongoing improvement. All participating schools work to strengthen their programs, exchange professional expertise, and create better learning opportunities for students. The Great Schools Partnership (GSP) is the lead coordinator of the League of Innovative Schools (and the related [\*\*New England Secondary School Consortium\*\*](#)). Leadership teams from approximately 30 Connecticut secondary schools have participated in GSP's Mastery-Based Learning Institute to date, during which GSP has lead a policy shift related to recognition of mastery (or proficiency)-based diplomas by higher education in New England.

### [\*\*Meriden School District\*\*](#)

Meriden is leading an initiative combining the effective use of technology in 1:1 classrooms with rigorous instruc-



tion and timely feedback, student-led learning opportunities, and expanded learning outside the classroom. Staff and students are encouraged to “[Take Charge of their Learning.](#)”

### [Windsor Locks Public School District](#)

Windsor Locks, in partnership with Central Connecticut State University, is considered [a model](#) for how public school districts and colleges can work together to make a difference in what a personalized, mastery-based diploma looks like — and what it means for colleges.

### [RISE Network](#)

The RISE Network is a Connecticut-based, non-profit organization with a mission to empower educators to achieve breakthrough results, helping all students realize and achieve their full potential. RISE facilitates networked improvement communities by bringing together educators working in different contexts to advance shared goals. Together, it builds community, democratizes innovation, and improves systems in public schools and districts. RISE represents a multi-year partnership among East Hartford, Meriden, New Haven, and Hartford Public Schools to support educators striving to ensure every RISE high school student graduates college and career ready. The Network serves more than 6,000 students and 600+ educators in five high schools.

### [Commissioner’s Network of Schools and Alliance Districts](#)

The Alliance is a unique and targeted investment in Connecticut’s 30 lowest-performing districts. Serving more than 200,000 students and 410 schools, the Alliance represents a significant opportunity for scaling innovation. Connecticut General Statute Section 10-262u established a process for identifying Alliance Districts and allocating increased Education Cost Sharing (ECS) funds to support district strategies trying to dramatically increase student outcomes and close achievement gaps by pursuing bold and innovative reforms. In addition to addressing district-specific needs and goals, all districts are expected to develop systems, processes, and infrastructure in critical areas.

### **Connecticut Technical High School System**

CTHSS helps facilitate a unique and rigorous educational program in all of our schools. Our customized curriculum prepares each student for college and careers. Over the next three years CTHSS will transition to a digital, one-on-one environment for student success.

### [Minority Teacher Recruitment Initiative](#)

The Regional Education Service Centers (RESCs) network operates the Minority Teacher Recruitment Initiative (overseen by the Connecticut State Department of Education) in an effort to develop, recruit, hire, and retain a diverse teaching and administrative staff. The program provides competitive scholarships and networking support to increase the number of minority teacher graduates from alternate route to certification and teacher preparation programs in Connecticut.

### [Systemic Transformation Cohort](#)

Under the leadership of CAPSS, a 22-district leader cohort is beginning to address the future “Portrait of the Graduate” that will become the basis for curriculum development and definition of the instructional strategies that will make the vision a reality. Five Systemic Transformation sessions between 2017-2018 will jumpstart energy and congruence around a shared lexicon for a confluence of important approaches including competency education, personalized learning—and how they can be enabled and scaled by technology.

### [CABE Lighthouse Project](#)

The Connecticut Association of Boards of Education (CABE) advocates for and provides training and services to board members across the state. The organization has a strong leadership influence in virtually every district, having developed the de facto policy manual for K–12 schools. Its Lighthouse Project, sponsored in part by the State Department of Education and part of a multi-state coalition driving school improvement, provides intensive train-

ing to school boards with a focus on student achievement. Program outcomes include strengthened relationships between boards and district leadership, improved teacher evaluation and professional development supports, and budgetary planning predicated on what will best serve student achievement.

### [Connecticut Association for Adult and Continuing Education](#)

CAACE's purpose is to provide leadership in advancing the concept of lifelong learning. Adult education is a critical and direct extension of the K-12 system while also serving the community college system as a "transition program." Continuing Education is an important part of the ecosystem, supporting those (at all levels of English Language Learning) who are pursuing the necessary education and skills to advance their careers through a network of CAACE opportunities.

### [State Education Resource Center \(SERC\)](#)

SERC is a quasi-public agency established under statute to serve the Connecticut State Board of Education in supporting educational equity and excellence. SERC does this by providing professional development and information dissemination in the latest research and best practices to educators, service providers, and families throughout the state, as well as job-embedded technical assistance and training within schools, programs, and districts. Formerly known as the Special Education Resource Center, SERC became the State Education Resource Center according to a change in state statutes.

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## Education Technology Infrastructure, Tools, and Supports

### [Connecticut Commission for Educational Technology \(CET\)](#)

Unlike other states that separate the interests of educational technology across multiple agencies, Connecticut has a consolidated policy and program lead in its Connecticut Commission for Educational Technology, representing the interests of K–12 schools, higher education, and libraries. The 19 members and executive director represent a think tank of subject-matter experts that advocate and provide solutions for its constituents. The body recently released its [2017–22 Goals and Plan](#) for the state, with eight core initiatives that benefit Connecticut's schools and libraries.

### [Connecticut Education Network \(CEN\)](#)

Governed by the Commission for Educational Technology, CEN connects all public school districts and libraries. Thanks in large part to the Network, the state has met the 100 Kbps connectivity goal for 98 percent of its public school students, according to data from Education SuperHighway. The Network provides gigabit speeds with filtering and denial of service (DOS) protections at a fraction of the cost of commercial providers, many of which cannot even offer this bundle of education-specific services.

### **Hardware Funding**

Connecticut has seen significant growth in 1:1 computing initiatives over the last few years, spurred by Connecticut's commitment to online, adaptive testing. Between the 2013 and 2014 academic years, the Office of the Governor provided more than \$30M in funding to schools to support the provision of data connections to and within schools *as well as the purchase of computers*. Results from a fall 2016 statewide survey of schools indicates that more than 70 percent of Connecticut high schools operate 1:1 computing programs. Among high schools that do not offer a dedicated device to each student, only 3 percent have a ratio of more than three students per device.

### **Connecticut Educational Software Hub**

To support the efficient and effective use of educational technology, CET launched the Connecticut Educational Software Hub in August 2017. The site, operating on the LearnPlatform, allows educational leaders to share efficacy



data across a national network of peers, leading to smarter expenditures and measurement of educational technology. The site also serves as a privacy registry, providing a list of software whose providers have demonstrated compliance with the state's student data privacy laws. The Hub significantly reduces the compliance burden on districts and helps ensure that schools do not respond to the demands of state statutes by avoiding the use of technology that can enable and scale personalized, student-centered learning.

### **GoOpen**

CET supports cost-effective, anywhere and anytime learning for students of all ages. The Commission recently adopted the GoOpen framework around open education resources (OER) and is pursuing the selection and launch of an OER repository. Planning around this initiative shows a strong network of OER advocates in the K–12, higher education (especially community college), and library communities, critical to designing a governance and support network to ensure long-term growth and utilization of the platform.

### **Student and Educator Standards**

Equity stands as a priority throughout the Commission's work, as evidenced by its recent endorsement of both the ISTE Student and Educator Standards. Connecticut became the first state to adopt both sets of standards and is working with stakeholders across the state to ensure adoption of these standards in classrooms, teacher preparation programs, and elsewhere.

### **Digital Equity Toolkit**

CET is developing a Digital Equity Toolkit to help get learners of all ages online outside of schools and traditional learning institutions such as public libraries. The Toolkit serves as a blueprint for leveraging the existing connectivity assets unique to each community (e.g., publicly available hotspots and loan programs) and enlists the support of local leaders to ensure sustainability.

### **Connecticut Educators Computer Association (CECA)**

A number of professional and advocacy groups in Connecticut support the effective use of technology to support and scale personalized learning; among them is CECA, Connecticut's ISTE affiliate. Its flagship conference attracts hundreds annually as a professional learning and networking event.

### **Connecticut Educational Technology Leaders (CTETL)**

Last year saw the launch of the Connecticut Educational Technology Leaders (CTETL) group, the state's chapter of the Consortium for School Networking (CoSN). While still new, the group has more than 100 members, mostly from the ranks of Connecticut's 169 district technology directors, and has hosted several conferences on topics ranging from student data privacy to cybersecurity.

### **Regional Education Service Centers (RESCs)**

At the regional and local level, supports around educational technology come from the six regional education service centers (RESCs), which offer volume purchase discounts and professional development.

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## **Entrepreneurs and Start-Up Culture**

### **CTNext**

CTNext is a subsidiary of Connecticut Innovations, the state's venture capital firm. It is a public/private network of entrepreneurs, mentors, service providers and others helping Connecticut's most promising startups succeed and grow. In 2016, CTNext expanded to new initiatives helping key places in the state become magnets for talent, supporting entrepreneurship in higher education, and focusing more on growth-stage companies.

### [Innovation Places Grants \(IPG\)](#)

IPGs help cities take the first step toward establishing urban hubs that promote high-tech business growth. Four municipalities have thus far received funding from CTNext. Benchmarks to measure the success of the innovation places include the talent, tech companies, and young people drawn to these areas. Amongst those communities recently receiving IPG, Hartford and New Haven both have awareness programs that link students and families to technology and careers. Stamford has a focus on skills development and retooling for adult learners. Thames River plans to host a series of hack-a-thons. K-12 outreach appears to be an underlying goal as each new hub city builds a local culture and pipeline of talent.

### **Angel Investor Tax Credit**

The state's "angel credit" allows accredited investors or a network of accredited investors, with an investment of \$25,000 to \$1 million dollars, to qualify for a 25% credit on their state income tax. Investors must invest in a Qualified Connecticut Business (QCB) which can include edtech companies.

### **80+ Edtech Companies**

In 2016, as part of an effort to explore public-private collaboration, a preliminary inventory of edtech companies in Connecticut was drafted, indicating the presence of 80 edtech companies at that time. Examples include:

- [Doors to Explore](#)  
Doors to Explore supports college and career guidance in STEM. The platform helps individuals explore 4-year degree options and possible career outcomes before amassing college debt. The platform allows anyone to explore regional salary data and find schools that offer programs of interest. Students can better find their passion and understand employment implications sooner rather than later by leveraging the data needed to make good decisions.
- [Language Zen](#)  
Language Zen is a platform that teaches a semester of college Spanish in only 25 hours. While other programs put learners on the same linear path as every other user, Language Zen has no average user. The program dynamically selects content based on a learner's personal interests and proficiencies, even allowing them to learn from real music that overlaps with vocabulary. The platform introduces the learner to new words by how often they're actually used in the real world.
- [Level Up Village](#)  
Connecticut-based Level Up's mission is to globalize the classroom and facilitate seamless collaboration between students from around the world. Using pioneering Global STEAM (STEM + Arts) enrichment courses, Level Up Village runs courses at more than 300 public and private schools in the U.S., the U.K., and Australia with 40+ Global Partner organizations in more than 20 countries.

### **Incubators**

Business incubators are programs designed to support the successful launch and growth of entrepreneurial companies through an array of business support resources and services, orchestrated by management teams. Incubators increase the likelihood that a 'start-up' organization will succeed and continuously improve over time. Examples include the following:

- [reSET](#)  
reSET, Social Enterprise Trust is a non-profit organization whose mission is to advance the social enterprise sector. Its strategic goals are threefold: to be the "go-to" place for impact entrepreneurs, to make Hartford

the Impact City, and Connecticut the social enterprise state. reSET serves all entrepreneurs, but specializes in social enterprise — impact driven business with a double and sometimes triple bottom line. In addition to providing co-working space and accelerator and mentoring programs, reSET aims to inspire innovation and community collaboration, and to support entrepreneurs in creating market-based solutions to community challenges. reSET’s goal is to meet entrepreneurs wherever they are in their trajectory and to help them take their businesses to the next level.

- **[Stamford Innovation Center](#)**

The Stamford Innovation Center is a place to work, learn and collaborate in a setting that is second to none and with a vision that is entirely focused on the success of each entrepreneur. The Center’s sole objective is to create an environment where entrepreneurs can tap into the deep Expertise, enthusiastic Talent, proven Service Providers and experienced angel and VC Investors that live and work in this part of the world.

- **[Techstars in Connecticut](#)**

Connecticut is part of a global movement, home to the city’s innovators, leaders, doers, makers, and entrepreneurs. Techstars supports new ventures, provides resources for entrepreneurs, and connects this community. Led by the best and brightest Connecticut’s entrepreneurial community has to offer, Techstars Connecticut includes programs and events like the popular StartUp Weekends.

### **[The Connecticut Business Incubator Network](#)**

The Connecticut Business Incubator Network’s Vision is to stimulate Connecticut’s economic development through business incubation activities, resulting in the creation of new jobs, new businesses and new investments. The Network’s seven participating incubator programs operate a total of ten facilities that are strategically located throughout the state. Together, the facilities provide a home to more than 64 start-up businesses.

### **[Entrepreneurship & Innovation in Connecticut’s Higher Education System: A Catalytic Roadmap for Higher Education Collaboration](#)**

A Working Group, composed of the presidents of 35 Connecticut higher education institutions, was established in Public Act 16-3 to create a masterplan to facilitate entrepreneurship and innovation in the state’s higher education institutions and identify funding priority for entrepreneurship grants-in-aid, as outlined in Section 28 of the Act. The plan is an essential roadmap for understanding and strengthening the role of higher education in Connecticut’s Entrepreneurship & Innovation ecosystem.

### **[Entrepreneurs Organization \(EO\)](#)**

The Connecticut Chapter of this global organization has 44 member organizations of like-minded entrepreneurs focused on business growth, personal development, and community engagement. Embodying start-up culture, these potential partners bridge the gap in the ecosystem between institutions and community.

### **[Cure Innovation Commons](#)**

Innovate. Collaborate. Conquer. “The Commons” offers commercial-grade labs, offices, co-working and special event spaces at cost-effective prices and with flexible lease terms. Located halfway between Boston and New York City, The Commons offers nearly 22,000 square feet of newly-design space in southeast coastal Connecticut, led by a team of experienced entrepreneurs and scientists.

### **[The Growth Engine Co.](#)**

The Growth Engine Co. is a full-service Innovation Agency managing over 200 successful innovation projects leading to over \$3 Billion in new sales for a wide variety of Fortune 500 clients including Unilever, Kraft, AT&T, Merck, Pepsi, and BNY Mellon. Based in Norwalk, Connecticut, it specializes in new product development, creative strategy,

brainstorming, ideation, and innovation process and is a tremendous resource in the state for innovative thinking.

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## Academia and Research

### [Support for Proficiency-Based Transcripts](#)

New England Institutions of Higher Education were the first to offer a collective statement on support for proficiency-based (mastery-based) transcripts. This movement led by The New England Secondary School Consortium to adopt proficiency-based approaches to teaching, learning, and graduating has gained momentum throughout the country, but it is excelling in New England. Sixty-seven public institutions of higher education from across New England (including highly selective institutions such as Harvard University and Massachusetts Institute of Technology) provided statements articulating their support for proficiency-based learning and stating unequivocally that students with proficiency-based grades and transcripts will not be disadvantaged in any way. Twenty public and private institutions of higher education from across Connecticut have provided such statements and letters.

### [Neag School of Education](#)

The Neag School of Education at UCONN is recognized among the top 20 public graduate schools of education in the nation by *U.S. News & World Report*. Neag supports development of *effective teachers and leaders*, and as a Carnegie classified RU/VH (very high research activity) University, it is engaged in leading-edge research (including the learning and improvement sciences) that can be directly translated into effective practice. Research ranges from how to maintain a positive learning environment to how to effectively measure student growth and mastery. Neag's [strategic areas of national excellence](#) in scholarship have been identified to include Equity and Social Justice, STEM Education, Creativity and Innovation, and Educator Quality and Effectiveness.

### [Relay Connecticut](#)

Relay is an accredited national nonprofit institution of higher education serving 2,000 teachers and 400 school leaders across the U.S. It offers degree programs, professional development, and unique learning experiences for teachers, principals, college students, and members of the public. Founded by a group of innovative practitioners who had a bold vision for a new kind of teacher preparation, Relay continuously explores new opportunities to expand their impact on PK-12 education and make meaningful contributions to the field of higher education. The Relay Connecticut Campus was launched in 2016.

### [Yale School of Management](#)

The mission of the Yale School of Management is to educate leaders for business and society. To be effective in a world characterized by increasing complexity and confronted by daunting problems, leaders must elevate their teams and organizations, connect and leverage, and work across boundaries of function, industry, and region. By engaging with a great university, connecting globally, and advancing a broad-minded model of business education, Yale School of Management positions its people strategically to maximize their academic and professional development.

### [Sacred Heart University Problem-Based Learning Lab](#)

The Welch College of Business (WCOB) Problem-Based Learning (PBL) Lab is an experiential learning program designed to expose students to real-world business problems requiring real-time applied solutions. Simply put, local businesses provide real projects for students to complete. Projects range from consulting, marketing, analysis, research, pricing, economic impact studies, branding and product development. The program is designed to mutually benefit students, the local business community, and community partners by providing high-quality business solutions to some of today's complex business problems.

### [Fairfield University Startup Program](#)

Fairfield University Startup Program is designed to foster young entrepreneurial talent at the university through engagement with mentors and investors drawn from alumni and local business communities. Fairfield's Program offers support services for up to five or six student-run ventures per year. Fairfield also has a Business Education Simulation and Trading Classroom that gives students the experience of interacting with the business world through a variety of computer based software programs. Fairfield University Entrepreneurship Laboratories (FUEL) is a co-working space and accelerator program that has been home to over a dozen small companies including Cometa Works, Crowdflik and eSolutionsOne. FUEL's openness to serve both the local community along with the campus has been critical to its success.

### [GlobalEd 2 \(GE2\)](#)

GE2 is a set of problem-based learning (PBL) simulations that capitalize on the multidisciplinary nature of social studies as an expanded curricular space to learn and apply science literacies, while simultaneously also enriching the curricular goals of social studies. GE2 has been successfully implemented in three countries (USA, Brazil & Cyprus) in middle, high school and college, consistently demonstrating student learning outcomes. The current GE2 project is a funded research project by the U.S. Department of Education for \$3.5M over four years (2013-2017).

### [Greenhouse Studios](#)

The University of Connecticut's Digital Media & Design Department (DMD), in collaboration with the University Libraries and University of Connecticut Humanities Institute (UCHI), launched the Greenhouse Studios/Scholarly Communications Design at the University of Connecticut to explore the opportunities of scholarship in the "digital age." A transdisciplinary collective, Greenhouse Studios reframes the practices, pathways, and products of scholarly communications through design-based, inquiry-driven, collaboration-first approaches to the creation and expression of knowledge.

### [Middlesex Community College Center for Civic Engagement](#)

Civic engagement gives students a competitive edge when entering the workforce, and has been cited as a major reason people succeed in school and in life. Middlesex's Center for Civic Engagement believes that the greater community holds countless learning opportunities for every student – and helps build civic bonds. By connecting with local, national, and global organizations and partners, it identifies new and unique learning environments outside of the classroom where students can complete projects and fulfill program objectives. This form of applied learning expands students' experiences, builds connections between students and the community, and helps organizations meet real needs.

### [play2PREVENT™ \(p2P\) Lab](#)

The p2P Lab focuses on the use of "play," in the form of videogame play, for the purposes of health promotion, risk reduction, social good, and educational interventions. p2P harnesses videogame technology to create engaging and effective methods to convey information and teach skills that lead to behavior change, translating to healthier and safer lives.

### [Science of Learning, from Neurobiology to Real-World Application: a Problem-Based Approach](#)

This \$3 million project exploring the science of learning was born of an interdisciplinary group of UConn researchers and is one of 17 grants totaling \$51 million awarded nationwide by the National Science Foundation. The program aims to develop transformative models for graduate education in the STEM fields. Drawing on the sub-fields of cognitive science and neuroscience ranging from genetics to behavioral neuroscience, linguistics, education, psychology, and speech-language-hearing sciences, graduate students and their mentors will work toward developing new, team-based, interdisciplinary approaches to learning. Teams will work at scales ranging from genes and cells to neural networks, behavior, and classrooms. This project has tremendous implications across the ecosystem—from



higher education and teaching practice to curricular approaches and a new understanding of how our students (and adult teams) learn.

### [Wallace Foundation University Preparation Program Initiative \(UPPI\) at UConn](#)

The University of Connecticut Administrator Preparation Program (UCAPP) is a school leadership preparation program in the Neag School of Education. UCAPP's mission is to prepare highly qualified school leaders to promote equity and excellence in schools throughout Connecticut. To meet the aims of UPPI, Neag formed a Networked Improvement Community (NIC) with state and district partners as well as exemplar programs that serve as their mentor in the improvement process. The collaboration will enable their team to make significant changes to the 1) content and pedagogy of principal preparation instruction; 2) supervised clinical practice; and 3) measurement of graduates' impact.

### [ATION Digital Media Agency](#)

Connecticut Innovations (CI) in partnership with the University of Connecticut (UConn) manages a digital media and design pilot program led by ATION Digital Media Agency. ATION is a student-run agency that provides digital media, marketing and communications services to clients, including those in CI's portfolio.

### [Teach For America - Connecticut](#)

TFA's mission is to enlist, develop, and mobilize as many as possible of the nation's most promising future leaders to grow and strengthen the movement for educational equity and excellence. After a decade of work in Connecticut, Teach For America - Connecticut launched its city model in 2016, and now has three teams working in Hartford, New Haven, and Bridgeport. These teams are working in partnership with students, families, educators, and community leaders to develop a contextualized vision for student success.

### [Western Connecticut State University Center for Compassion, Creativity and Innovation](#)

The CCI's mission is to expand opportunities and support teaching, research and intellectual discourse, exploring the values of compassion, creativity and innovation for undergraduate and graduate students, faculty, and staff across all academic disciplines working whenever possible with people of all communities.

### [Tsai Center for Innovative Thinking at Yale \(CITY\)](#)

CITY has the mission to inspire and support students from diverse backgrounds and disciplines to seek innovative ways to address real-world problems. Launched in Fall 2017, CITY is building a new center of gravity to help students, faculty, and alumni collaborate more effectively across disciplines, endeavors, and ways of thinking about the world.

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## Community-Based Learning Opportunities

### [Connecticut After School Network](#)

The Connecticut After School Network is about opportunities. Kids thriving. Families working. Providers connecting. Schools excelling. The Network is a partnership of individuals and organizations promoting young people's safety, healthy development and learning outside the traditional classroom. CASN does this by providing training and technical assistance to improve program quality; influencing policy on behalf of youth and families; and expanding funding opportunities.

### [Connecticut Science Center](#)

With more than 165 hands-on exhibits, a state-of-the-art 3D digital theater, four educational labs, plus daily programs and events, the Connecticut Science Center offers endless exploration for children, teens, and adults. From physics to

forensics, geology to astronomy, visitors have the sciences at their fingertips. These experiences with science motivate students and visitors of all ages to enthusiastically embrace science at school, at home, and in their communities.

### [Unpaid Experiential Learning Program](#)

The Connecticut State Department of Education, in collaboration with the Department of Labor, created an Unpaid Experiential Learning Program (ELP). The Unpaid ELP serves as an added resource for Connecticut public schools seeking to differentiate learning experiences for students as many shift to a Mastery-Based Learning environment. The program allows schools—with business and industry partners—to provide up to 120 hours of unpaid training for students 16 and over in non-hazardous placements. The goal is for high school students to acquire transferrable skills that will help them succeed in college, careers, and civic life and become empowered to take ownership of their own learning. Students have the opportunity to link their internships to their Senior Demonstration Projects, community service opportunities as well as career and technical education pathways.

### [MakerSpaces](#)

[Makerspaces](#) are hothouses for developing design thinking processes, service learning experiences, and 21st century skills that positively impact student growth. Examples include [CT Hackerspace](#), a DIY and Technology oriented group that provides a community workshop and prototyping center to help make ideas real; Hartford Public Library's YOUMedia lab, with dedicated staff and programs to provide students with the tools to help them experiment with and hone design thinking and media skills; and MakeHaven, a community makerspace which educates and empowers people by facilitating independent interest-driven projects, hands-on experiences and access to technology. The not-for-profit is a gathering place for makers, creators, tinkerers and dreamers.

### [The Connecticut State Library](#)

The Connecticut State Library is an Executive Branch agency of the State of Connecticut. The State Library provides a variety of library, information, archival, public records, museum, and administrative services for citizens of Connecticut, as well as for the employees and officials of all three branches of State government. The State Library also serves students, researchers, public libraries and town governments throughout the state. In addition, the State Library directs a program of statewide library development and administers the Library Services and Technology Act state grant. In conjunction with the Department of Higher Education, the State Library also administers [researchitct.org](#), Connecticut's source for free online resources.

### **Connecticut Public and Association Libraries**

The state's 239 municipal, association, and branch libraries remain key partners in supporting student-centered learning. As inherently community-based institutions, libraries address the needs of students by providing an increasing number of Internet-enabled computers and wireless broadband, helping to realize the promise of 1:1 school computing programs for kids without a connection at home. Library staff, programs, and resources speak to the essential conditions necessary to support anytime, anywhere learning at the heart of a student-centered education. Connecticut's libraries offer digital and media literacy, cybersecurity, and other technology training to students of all ages, helping to bring about a more literate citizenry that can better understand and support the power of technology to deepen and personalize learning. And libraries are becoming centers of innovation that support the broader education ecosystem, with an explosion of maker spaces driven by community demand and investment as well as library-based virtual reality programming and test labs.

### [Energize Connecticut](#)

As part of the Energize Connecticut initiative, this energy efficiency and clean energy educational program is designed to facilitate students' understanding of the science, math, and technology related to energy efficiency, clean energy sources, and electricity. Programming ranges from an Energy Saving Challenge for grades 3–5 to interactive exhibits relating to energy efficiency and renewable energy sources that have been funded at museums and science centers throughout Connecticut.

## [United Way of Connecticut](#)

The mission of United Way of Connecticut is to help meet the needs of Connecticut and its residents by providing information, education and connection to a multitude of services. Areas of emphasis include Early Childhood Development and Education and Supporting and Strengthening Communities.

## [Boys & Girls Clubs of America](#)

Clubs throughout Connecticut small towns and cities provide a fun, safe and constructive environment for kids and teens during out-of-school hours. Community-based and led by professional staff, they offer programs and services to help young people succeed in school, develop leadership skills, and maintain healthy lifestyles.

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# Public Policy

## [CAPSS Next Ed: Next Steps](#)

Released in March 2016 by the Connecticut Association of Public School Superintendents (CAPSS), this report looks at the progress Connecticut has made with transitioning public education to a mastery-based personalized learning system and provides recommendations to continue this progress. Among core strategies NextEd: Next Steps suggests are:

- Personalize learning experiences to engage students in different ways.
- Focus on competency-based learning, wherein students advance to the next unit upon mastery—not upon a predetermined date or time period.
- Embrace “anytime, anywhere learning” and take learning opportunities beyond the classroom and into the community.
- Give students ownership over their learning, engaging them in incorporating their interests and skills into the learning process.

## [Connecticut Resolution on Mastery Based Learning \(2017\)](#)

In May 2017, the Connecticut State Board of Education (BOE) unanimously approved a resolution to support district efforts on personalized and mastery based learning (PMBL). This resolution reaffirmed the BOE’s commitment to support the transformation of school districts by continuing, within available funding, the resources for district and school teams involved in the PMBL transformation process. The resolution acknowledged existing efforts of school districts and encouraged every district to give serious consideration to educational transformation based on PMBL. *This is another significant move toward a unified direction and bringing these efforts to scale.*

## [High School Re-imagined](#)

The purpose of this project was to engage approximately 25 school districts, including high school students, in a discussion of the transformation of Connecticut high schools. Through research, community discussion, and debate, each of the 25 districts developed a framework to continue work on high school transformation and answer the question: “What should high school education look like as we move past the factory model?” The Connecticut Association of Schools (CAS), Connecticut Association of Public School Superintendents (CAPSS) and the Connecticut Department of Education (CSDE) collaboratively sponsored this project—contributing to the policy space for more personalized learning today. High School Students assumed responsibility for policy agenda early in the process, and directed and produced the final policy recommendations.

## [Ensuring Equity and Excellence for All Connecticut Students](#)

The Connecticut State Board of Education’s Five-year Comprehensive Plan (2016–21) outlines a commitment to



equity and excellence and provides an [important blueprint](#) for school improvement under the current system, laying out key actions in the areas of High Expectations, Great Teachers and Leaders, and Great Schools.

Actions relating to College and Career Readiness and Completion include:

- Support the universal use of the Student Success Plan model to ensure that every student has a pathway to achieve his or her goals and aspirations;
- Work with our partners in higher education to ensure that secondary school academic expectations are aligned with postsecondary entrance and success criteria;
- Expand and strengthen relevant, well-defined, and varied career pathway options and programming;
- Incorporate additional career readiness metrics, such as industry-recognized credential obtainment, into the state's Next Generation Accountability System; and
- Ensure that students are credit with appropriate, credible learning experiences that occur during periods when they are outside the jurisdiction of their local school district.

The Plan also includes specific actions relating to student-centered Learning:

- Strengthen and expand supports and resources for districts to design and implement mastery-based learning and personalized learning systems;
- Support educators' professional development specific to mastery-based learning through communities of practice; and
- Remove administrative barriers, recommend policy changes, and provide top-notch support for local boards of education that elect to move toward mastery-based learning.

### [Every Student Succeeds Act \(ESSA\)](#)

The state's approved ESSA Plan solidified the state's intention to promote student growth through a broader selection of [measures](#), and the use of assessments that provide reliable, valid, and consistent data. While the plan does not include proficiency targets in the traditional sense of the word, commitments to relieve some of the pressure associated with a binary proficient/not proficient approach to accountability signal a new era in Connecticut.

Within its new framework of accountability, Connecticut intends to use ESSA's focus on well-rounded education opportunities to improve access to high quality educational opportunities by addressing the academic and non-academic needs of students and students within subgroups. These opportunities may include: preschool programming; advanced coursework; science, technology, engineering, arts, and mathematics (STEM/STEAM) programming; physical education; career and technology education; 21st century skills; competency-based learning; as well as personalized learning. The Connecticut State Department of Education will assist districts in building new career and technical education courses/pathways, developing mastery-based learning systems that embrace earning credits based on mastery of standards, and increasing participation in work-based and alternative learning opportunities and pathways.

### [Public Act No. 17-42 : An act concerning revisions to the high school graduation requirements](#)

Section 1 of Public Act 17-42, effective July 1, 2017, delays the implementation of new graduation requirements, which will now take effect with the class of 2023. It provides increased flexibility for local boards of education to award credits by permitting boards to grant credit to students who demonstrate mastery of the subject matter content through "educational experiences and opportunities that provide flexible and multiple pathways to learning, including cross-curricular graduation requirements, career and technical education, virtual learning, work-based learning, service learning, dual enrollment and early college, courses taken in middle school, internships and student-designed independent studies, provided such demonstration of mastery is in accordance with such state-wide subject matter content standards."

### [Connecticut Seal of Biliteracy](#)

In summer 2017, Governor Daniel P. Malloy signed HB 7159/ PA 17-29, An Act Concerning Connecticut’s Seal of Biliteracy, officially making Connecticut the 27th state in the country with a Seal of Biliteracy. The Seal of Biliteracy is an award given by a school, district, or state in recognition of students who have studied and attained proficiency in two or more languages by high school graduation. It encourages students to pursue biliteracy, honors the skills our students attain, and can be evidence of skills that are attractive to future employers and college admissions offices.

### [Guidelines for Mastery-Based Learning 2015](#)

With support from The Great Schools Partnership (GSP), the New England Consortium of Secondary Schools (NESSC), and Achieve, the State Board of Education crafted Guidelines for Mastery-Based Learning. Before their official adoption in June 2015, The Guidelines for Mastery-Based Learning underwent a comprehensive vetting process that engaged major stakeholders including the Connecticut Teacher of the Year Semi-Finalists, members of local Boards of Education, superintendents, administrators, school-staff, parent groups, business advisory associations, the Connecticut Association of Schools (CAS) and the Connecticut Association of Public School Superintendents (CAPSS). The approved Guidelines are structured around the principles of community engagement, policy, and practice and is inclusive of the feedback presented by these groups.

### [Act for Unleashing Innovation](#)

In May of 2013, the state legislature passed Connecticut’s Act for Unleashing Innovation in Connecticut Schools. This bill states that local boards of education may grant a high school diploma through a “demonstration of mastery based on competency and performance standards, in accordance with guidelines adopted by the State Board of Education.”

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## **Business and Industry, Nonprofits, and Champions**

### [Connecticut Chambers of Commerce](#)

Chambers have been described as not-for-profit organizations designed to lift the economy. Chambers provide local businesses with an opportunity to network with other businesses, coordinating on key issues and events facing the business community.

### [Connecticut Coalition for Achievement Now \(ConnCAN\)](#)

ConnCAN, the Connecticut Coalition for Achievement Now, is a movement to improve education outcomes by bringing advocates, policy makers, parents and educators together to change the system and give all kids access to great public schools. With over 1300 interested parents and families in advocacy and a wide statewide reach, ConnCAN bridges the gaps in the ecosystem between concept and engagement, institutions and community.

### [Connecticut Business & Industry Association \(CBIA\)](#)

The Connecticut Business & Industry Association is the voice of business in Connecticut, with thousands of member companies championing change at the State Capitol, shaping debate about economic competitiveness, and fighting for a better future for all.

### [Connecticut Council for Education Reform \(CCER\)](#)

This statewide 501(c)(3) not-for-profit organization works to narrow the achievement gap and raise academic outcomes for all students in Connecticut. CCER gives voice to Connecticut’s public school system at a critical crossroads: “The test scores of our low-income students are significantly lower than the state’s non-low-income students.

This occurs despite the fact that our students overall score among the top five states in national math and reading tests. This gap between low-income and non-low-income students' scores is called the achievement gap and Connecticut's is the largest of any state in the country. The misconception: It's an urban thing. The achievement gap exists in every part of Connecticut—urban, suburban and rural. In fact, some of our wealthiest towns have achievement gaps larger than those of the Hartford and New Haven school districts." CCER is now under the umbrella of the Connecticut Business and Industry Association (CBIA).

### [Connecticut Center for School Change](#)

The Connecticut Center for School Change (the Center) is a statewide, non-profit organization with a mission to improve teaching and learning, to reduce achievement gaps, and to promote equity in Connecticut schools. The Center supports comprehensive preK-12 educational reform through a system-wide, integrated approach focused on improving instructional practice and developing leadership at all levels, from parents to superintendents.

### [Nellie Mae Foundation](#)

Based in New England, Nellie Mae has long been a leader in rethinking the education system. The Foundation's vision is that all New England learners are prepared for success—educationally, economically, and as engaged citizens. The Foundation conducts its work through four key initiatives: Building Public Understanding and Demand; Building Educator Ownership, Leadership, and Capacity; Developing Effective Systems Designs and Advancing Quality and Rigor of Student-Centered Practices. It grantees reimagine school districts to put students at the center, build educator capacity through projects like teacher and principal fellowships, and more.

### [Dalio Foundation](#)

The Dalio family's diverse philanthropic passions include: education, ocean exploration and awareness, environmental protection, deploying computing to scale solutions for disconnected communities throughout the world, meditation, mental health and wellness, healthcare, financial inclusion, child welfare and capacity building in China, and community activities and the arts, among other things. Dalio is passionate about engaging with educators, community leaders, and young people to build meaningful relationships and design solutions to achieve greater equity across Connecticut.

### [Hartford Foundation for Public Giving](#)

As Greater Hartford's community foundation, Hartford Foundation brings together the members of its community to share information, understand local problems and put resources behind effective solutions.

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