

A Look to the Future:

**Personalized Learning
in Connecticut**

Committee Members:

Rebecca Wolfe, Jobs For the Future
Adam Garry, DELL
Alicia Roy, New Fairfield
Carole Clifford, AFT
Charles Toulmin, Nellie Mae Education Foundation
Joseph Cirusuolo, CAPSS
Peter Cummings, CT Center for School Change
David Ruff, Great Schools Partnership
Deidre Tavera, Hartford Public Schools
Diane Ullman
Dianna Roberge-Wentzell, CT State Department of Education
Donna Boivin, DELL
Linette Branham, CEA
Erik Good, New Haven Public Schools
Jan Saam, Naugatuck Public Schools
Janet Garagliano, CAPSS
Joseph Reardon, Union Public Schools
Karissa Niehoff, CASCIAC
Lawrence Schaefer, CAPSS
Patrice McCarthy, CABE
Michael Galluzzo, CASCIAC
Raymond Rossomando, CEA
June Sanford, CT State Department of Education
Scott Brown, LEARN
Sheila Cohen, CEA
Stephen McKeever, AFTCT
Susan Domanico, Region #14 Public Schools
Max Waxenberg, CEA

Part I. Urgency for the Change

The State of Connecticut's education system has long articulated learning standards, trusting that local districts will design curriculum to meet community needs. Results have been mixed. The Task Force remains concerned that we are not doing right by all of our children. The concerns include worries that some of our students have become passive learners in elementary school; that many see school merely as a series of hurdles to jump over before receiving a diploma; that some of our students will be unprepared for the rigors of college, where they are expected to have prerequisite content, ability to manage workload, problem-solving and critical thinking skills. We ask if our students will fail (or is it "are prepared") to compete in a complex global economy and a local job market where the best jobs are increasingly dependent on higher-order skills. Despite significant and continued allocation of state resources, too many of our students have grown up in a state with stark inequities across and within communities, resulting in unequal opportunities that inevitably lead to unequal outcomes.

We know from experience that increasing student motivation strengthens performance and that not all students learn at the same pace and in the same way. To meet the new, globally benchmarked Common Core State Standards, students will have to demonstrate they can apply knowledge and skills in ways that require higher-order thinking and the ability to connect what they know to real world experiences. All students, particularly those at risk of being left behind, must experience school as relevant and interesting and a path to the best future they can envision. Instruction driven by a traditional, single path of learning and assessment is insufficient to prepare them to face the challenges of life after high school.

In the past decade, the state legislature and CSDE have created two foundational pieces of legislation, the Capstone Experience and Student Success Plans, that signal a readiness for the expansion of personalized learning in Connecticut.

This white paper suggests policy modifications at the state level towards achieving a personalized learning system in Connecticut. All students should be ***invested in learning, prepared for college and career, be globally competitive and be active participants in our representative democracy.***

All children will be invested in their learning. We must create empowering environments that inspire and expect students to articulate their aspirations, identifying incremental goals and related pathways

toward achieving their objectives. A more personalized learning setting will enable students to better manage obstacles and opportunities, as well as comprehend compelling issues affecting their lives, communities and their potential in a global economy. More relevant, authentic, and applied learning activities will also enable students to effectively share their creations or conclusions with a range of audiences beyond the classroom, with continuous monitoring, guidance, and assessment by the teacher. Applied learning activities better connected to student goals and aspirations will inspire students to apply learning in complex situations. A more personalized learning setting will provide flexible and sufficient time for students to stay on track toward their aspirations, commit to their goals, and to persevere. The connection among stated goals, regular opportunities to apply learning in complex situations, and flexible time provide students the freedom and support to persevere.

All children will be prepared for college and career. Our high school graduates should demonstrate mastery of core content (Common Core and individual state standards); set college and/or work pathways that enable them to pursue their aspirations; and be equipped to achieve those aspirations. This requires skills that are often non-academic: responsible decision-making, teamwork and financial literacy and management. In a personalized learning system, college and career readiness require a wider array of options and supports to help **all** students identify and achieve their highest academic, career, social/emotional/physical goals. To that end, college and career readiness require a wider array of supports to help students achieve their goals, especially for children in traditionally underserved communities.

All children will be active participants in our representative democracy. The State of Connecticut is committed that students receive an effective and meaningful education that prepares them “to be responsible citizens able to participate fully in democratic institutions, such as jury service and voting, and to prepare them to progress to institutions of higher education, or to attain productive employment and otherwise to contribute to the state’s economy,” as the State Supreme Court has noted. (CCJEF v. Rell, 2010).

All children will be globally competitive. We must prepare our students to become lifelong learners with 21st Century skills such as collaboration, creativity, and the agility to evolve with the times. Students with these skills will translate their ideas and findings into appropriate actions and communicate effectively

with diverse audiences. A personalized learning system driven by student creativity and innovation will prepare young people to compete for jobs in a dynamic, global economy.

The state legislature, Department of Education, and local communities must create the conditions in which a personalized learning system can thrive. Our students deserve a more progressive and responsive system of education; one that invests in their learning, prepares them for college and career, enables them to be active participants in our representative democracy and be globally competitive.

Part II. Definition of Personalized Learning System and Overview of Four Structural Elements

A personalized learning system transforms schooling by providing voice and choice on what, where, and how students learn in relation to standards-based, world-class knowledge and skills.

In this personalized learning system:

- ***Every student*** works closely with teachers to establish goals and pace of learning, pursues investigations or projects to demonstrate goals, regularly evaluates progress in relation to those goals, and communicates results as an indication of mastery.
- ***Every teacher*** creates a classroom culture of respect grounded in high expectations as well as providing feedback and guidance in learning content, developing skills, and thinking strategically.
- ***Every learning community*** both within and outside of school offers students opportunity to learn from experience through application in authentic situations.

The Centrality of the Teacher’s Role in a Personalized Learning System

Personalized learning requires a transformed role from “deliverer of information” to a complex, multi-faceted set of roles that puts students at the center of learning. *Jobs for the Future* identifies six roles: curriculum planner, classroom facilitator and coach, assessor, advisor, connector and communicator. These roles require high levels of decision-making and analysis, flexibility and the ability to collaborate with students.

In order to support teachers in their evolving and varied roles in a personalized learning environment, schools and school districts must give them opportunities to learn together. Common planning time, job-embedded professional development, peer

support and feedback are all valuable methods for creating the knowledge and skill needed to provide a rich and challenging environment for all students. The vast majority of teacher preparation institutions do

Six Roles of Teachers in a Personalized Learning System

- **Curriculum Planner:** What is essential for students to learn?
- **Classroom Facilitator and Coach:** How can I structure learning so students can explore interests, pose questions, and discover their own answers?
- **Assessor:** How do I collect evidence of learning as an ongoing process?
- **Advisor:** How do I ensure that students are on track in relation to the goals?
- **Communicator:** How do I ensure that students have clarity about their progress as learners?
- **Connector:** How can I use my professional network to create opportunities for students?

not currently prepare teachers for personalized learning. Unless and until they do so, the responsibility rests on the shoulders of local school districts.

Role of Teachers in a Personalized Learning Environment

The work of a teacher has begun to change as the transition to personalized learning occurs. Education must continue to evolve. This work is occurring along a continuum. The educator’s work is to find the delicate balance between what works from the past with what our students need to be successful in the future.

Personalization of learning refers to instruction that is paced to learning needs, tailored to learning preferences, and the specific interests of different learners. In a personalized learning environment, learning objectives and content as well as method and pace may all vary.

The skills, expertise and relationships with students required of teachers in a personalized learning environment will be essentially the same as in a traditional learning environment. What is different is how skills, expertise and relationships are applied. For example, a teacher in a personalized learning environment must be skilled in designing personalized learning pathways based on student instructional needs, interests and learning preferences. Over time, the teacher must transfer the skill of designing a learning path to the student.

Another example is the critical role teachers have in determining when the student has achieved a competency. Only a certified teacher can assess level of mastery. While teachers today are responsible for learning assessment, what changes in personalized learning is the use of a variety of assessment methods such as performance assessment and project-based learning.

Teachers at one school in Alberta, Canada conceptualized the continuum of practices that they engaged in as they moved to personalized learning. **The chart below illustrates both ends of the continuum.**

Teacher-centered model	Learner-centered model
Time as the constant (time slotted and time driven programming)	Learning as the constant (exploring any time, any place learning models)
Teacher choice	Student voice and choice
Teacher as expert or the “sage on the stage”	Teacher as an “architect of learning” in

	collaboration with students
Focus on knowledge and basic skill development	Focus on competencies (skills, attitudes and dispositions) and the application of competencies
Facts, theory-focused, and pre-determined tasks	Complex questions, problems, projects, and practice-focused scenarios requiring critical thinking
Provision of pre-determined information or programs for implementation	Provision of unsolved problems and real challenges to develop new theories and models
Communication predetermined with limited interactivity	Communication as socially constructed; disclosure open and encourages extended interactions
Discrete outcomes to teach	Focus on “big ideas” and essential learning outcomes in the curricula
Learning as competitive; individual learning and success celebrated	Learning as collaborative; community knowledge honored and encouraged
One-shot professional development sessions or in service (“one size fits all” teachers)	Job-embedded and continuous professional learning models (personalized and support of local context)
Principal as central to school leadership and improvement efforts	Teacher leadership and distribution of leadership central to school leadership and improvement efforts
Isolationist work model	Open and collaborative work model with a focus on “sharing learning” with others within the profession

This chart was adapted from work published in the book "Authentic Learning in the 21st Century, Reconceptualizing Learning and Teaching at Michael Strembitsky School” 2012/2013, Edmonton Public Schools, Alberta, Canada.

Elements of a Personalized Learning System

A personalized learning system has four defining structural elements. It is ***competency-based, offers multiple paths of study, uses variable time, and includes meaningful assessment and accountability.***

Competency-based progress allows students to advance upon demonstrated mastery of clear and explicit learning expectations. This system is designed to

- Demonstrate competency aligned with Common Core and other subject-area content standards on local and state assessments; and
- Emphasize fluency, conceptual understanding, and application of knowledge.

Multiple paths of study provide opportunities to learn and demonstrate competencies both inside and outside the school building. Tasks and experiences are designed with and inspired by students’ needs, skills, and interests. These paths offer:

- Equal opportunity and access to all available resources;
- Student voice in creation and execution of interesting questions to pursue, texts to read, projects to improve community life;
- Effective family-school-community partnerships (e.g. field-based experts, business and community leaders, college professors, dual enrollment) to broaden the authenticity and impact of student work; and
- Technology tools to empower and engage students to learn and share information and ideas with experts beyond the classroom.

Third, a personalized learning system honors the student through **variable time**:

- Provides every student sufficient time, not limited by the standard school year, that he or she needs to make progress toward the defined competencies;
- Accommodates every learner’s social, emotional, and physical needs; and
- Uses various appropriate assessments, including formative and summary assessments, to inform the student, teacher, and parent about the student progress based on mastery.

Fourth, to measure student success, robust and varied **assessment and accountability** strategies should be implemented to inform students, families, school and district staff, and state officials about individual and group progress in relation to the competencies. Such strategies should feature an evidence-based collection of student tasks and tests designed around clearly defined competencies to develop college and career readiness.

- Multiple, robust assessment to determine progress toward competency, including performance tasks that require application of knowledge and skills as determined at the district, school, and classroom levels.

- Accountability policies that move from labeling schools based on standardized test scores to promoting improvement based on growth of students toward clearly-defined competencies.

Policies, procedures, and practices at the state and local levels must be reexamined in order to facilitate personalized learning in Connecticut. Dialogue must occur early and often if these changes are to be embraced by local constituencies.

The following chart outlines the shifts in policies, practices, and ownership of learning that promote personalized learning.

Elements	Shifting From	Shifting To
<i>Competency-based</i>	A system that awards credits based on seat time	Competency-based system aligned with Common Core and other subject-area content standards on local and state assessments
	Demonstration of fluency	Demonstration of fluency, conceptual understanding, and application
<i>Time</i>	Time-based system	Competency-based system
	Predictable school day and school year	Learning 24/7, 365 days a year, monitored and validated by teachers
<i>Multiple paths of study</i>	Limited flexibility in where schooling happens	Appropriate flexibility in location for learning (e.g. online, workplace, community) based on student's needs and ability
	Courses driven by a standardized curriculum, pace, and resources	Competencies and defined standards drive tasks, texts, and assignments designed to maximize students' needs, interests, and learning styles
	Texts and tasks solely determined by the teacher	Student voice in determining questions, in collaboration with the teacher, creation of tasks to pursue, and relevant texts in service to those questions and tasks with approval from the teacher
<i>Assessment</i>	Limited use of formative assessments to guide teacher instruction	Extensive use of appropriate, meaningful formative assessments to gauge student progress toward competencies

	Primarily structured (e.g. multiple choice, short answer) and constructed response (e.g. academic prompt, summary of information) items to measure acquisition	Primarily performance-based tasks to measure acquisition, conceptual understanding, and application
	Whole class assessment	Personalized assessment tailored to individual needs, interests, styles
	Assignments are done for teacher as audience	Exhibition or presentation to demonstrate learning to broad audiences, with continual teacher guidance, monitoring and assessment.
Accountability	Teacher reports progress and achievement to student and family	Teacher and student conference regularly to evaluate progress, achievement, and appropriate next steps, with continual communication/engagement with parents.
	Promotion or retention at the end of the year, based on achievement in the course or grade level	Advancement based on readiness at any point during the year based on demonstration of competencies
	Systems to record scores	Systems for tracking student advancement
	Assigned testing window for state and national assessments	State and national assessments based on readiness and for diagnostic purposes only.
	Transcript based on numerical grades	Transcript based on competencies
	Based on school and district performance on standardized tests and graduation rates	Districts determine balanced accountability systems composed of multiple indicators of student growth and development
	The state requires all districts to adhere to the same accountability system (DPI and SPI)	The state supports and allows differentiated accountability systems for districts in accordance with state criteria (portfolio system)
	Diploma awarded on accumulation of credits	Diploma awarded on demonstration of mastery of knowledge and skills

<i>Result</i>	Passive learners	Inquisitive, proactive, dutiful, responsible students
	Student follows directions	Student makes decisions and is responsible for learning

Part III. Delving Deeper into the Four Structural Elements in a Personalized Learning System

In a personalized learning system, a set of learning targets or performance objectives drives the work of every student. Each competency has clear, transferrable learning that is aligned both to the key content and key cognitive strategies necessary to engage with and master the subject.

- **Sample Competency in American History:** The Great West and the Rise of the Debtor (1860s-1896) – The student will evaluate the great westward movement and assess the impact of the agricultural revolution on the nation. (*North Carolina State Board of Education*)
- **Sample Competency in Graphic Design:** Through the critique process, the student can use analytical vocabulary in verbal and written form to formulate and defend artistic judgments about graphic design. (*Miami Dade Public Schools*)

A competency-based system honors the fact that every child is different, therefore the way in which that child will progress may also be different. By breaking free from a focus on age, hours on task, or credits, students learn through a dynamic cycle of application and feedback where failure, reflection and revision are natural parts of the learning process and grades are determined based on student achievement of competencies.

Multiple paths of study

Students choose a path of study with teacher guidance and approval based on their interests, strengths, passions, and long-term goals. Outcomes and the multiple ways of arriving at the outcomes are determined.

Students may learn about interesting topics, ideas, and innovations, but generally, students have to wait until after school or graduation to pursue their interests. ***In a personalized learning system***, expertise is everywhere. Now more than ever, pursuing multiple paths of study can provide students the interest and engagement that will support higher levels of learning. Students can acquire competencies by tapping into resources both in and outside of school. Extended learning opportunities such as apprenticeships, community service, independent study, online courses, internships, performing groups, and private

instruction as well as dual enrollment programs, offer students the opportunity to build mastery toward competencies in ways that match their styles and interests as guided, monitored, and assessed by teachers. Community-based, work-based and service-based learning not only provide students an avenue to demonstrate learning in authentic contexts, but students also have real opportunities to make a difference in their local, state, national and global communities.

Another innovation that broadens a personalized learning system's scope of study is the impact of technology to prepare students with technical skills for the world of work. Online learning is one of many ways to engage students and broaden learning opportunities. Some Connecticut districts have begun to redesign traditional courses into online or blended formats that focus on demonstration of achievement. When these redesigned course formats are delivered successfully, the physical and virtual classrooms are active, vibrant places where students share and create together. Additionally, the state requires all students in grades 6-12 to have a student success plan that encourages participation in learning outside the classroom.

In a personalized learning system, students pursue authentic challenges through multiple paths of study. Students also realize the value of that learning outside of traditional school structures.

Variable Time

In a personalized learning system, time is a resource to be used flexibly based on the nature of the challenge and the students' skill level. Through greater flexibility of time for student learning, every student will receive customized supports and accelerated opportunity both in and out of school to ensure career and college readiness.

“What counts” as learning must be reexamined. Blended learning approaches to support student mastery of the competencies are more meaningful and practical to students, staff, families, and community members. If we are moving to anywhere/ anytime learning, then what we do in the “brick and mortar,” online, or community learning space to further the competency is more important than the number of minutes assigned to a particular class. The goal is to provide learning opportunities and meet the educational needs and interests of all children. This opens the door to:

- Personalized learning formats in which individuals or small groups pursue a project or problem that they deeply care about and use experts (in and out of school) for information and feedback;
- Community-based learning through internships, projects, and workplace employment that values application of learning through authentic formats; and
- Online or blended learning, guided by schools and teachers, that values student time and engagement by using a setting that they are comfortable with to explore, connect and make sense of texts, problems, and challenges

Assessment as Learning

A personalized learning system uses assessment to guide learning. This robust and rigorous system is grounded in high standards and multiple assessments of student mastery. These assessments value the solution, interpretation, creation, or conclusion and the explanation or justification that led to that result. Formative and summative assessments are part of a natural learning process as students become more in control of what they learn, when they learn it, and how they are demonstrating what they have learned.

- **Formative assessments** provide information to student and teacher about current performance in relation to a learning target so that appropriate instructional adjustments can be made. ***In a personalized learning system,*** formative assessments are designed to reveal individual student strengths and weaknesses in order to create and modify a plan for success. The student and the teacher regularly discuss feedback, progress, and next steps as they both demonstrate commitment to learning and growth.
- **Summative assessments** provide information to students, their families, and staff of mastery levels in relation to given competencies. Generally these assessments occur toward the end of a unit, semester, or year. ***In a personalized learning system,*** summative assessments are rich

performance-based tasks to which students apply their learning to novel situations to demonstrate strategy, skill, and perseverance. When students have more influence on the summative assessment design, they are more likely to use self-regulation skills (setting goals, monitoring progress) as well as be more motivated to master core knowledge and skills. In a personalized learning system, student and teacher use the rubrics written in student-accessible language to both guide and evaluate performance. Grading is not something “done” to the student, but rather with the student where he or she has clarity on how the work will be judged as well as using that clarity to continue to inform the development of the task. The teacher provides feedback to the student to inform revision of a given task, to validate competency levels, and to clarify readiness for taking a state or national assessment.

- ***Special Type of Summative Assessment: Digital Portfolios, Gateways, and/or Exhibitions*** are formal collections and presentations of what students have learned throughout one or multiple years of schooling. ***In a personalized learning system***, the student owns the work, which is a demonstration of mastery through a student-created, student-led conversation about content and skill development over time. Audiences for these presentations typically include parents, staff, and practicing experts to whom students can showcase a variety of authentic tasks to demonstrate mastery. Connecticut’s Capstone Project legislation is one example of a summary assessment that promotes personalized learning.
- ***Large-scale assessments*** provide information to students, their families, school and district staff, and the state about student performance and school-wide challenges. Typically these assessments are administered for every student at that grade or course level at a predetermined time of the year. ***In a personalized learning system***, a student takes a large-scale assessment when he or she is ready, not on a time schedule. These criterion-referenced large-scale tests can become more innovative, using advances in assessment technology to address different contexts of the learning.

In a personalized learning system, accountability is grounded in rigorous assessments that both measure and promote student learning. Accountability can be used as a meaningful feedback loop in which students, teachers, and family members check progress toward competency targets. At the local level, school staff can use data regularly to make sure all students are on track. At the state level, policy

makers and education officials can support continuous improvement of the local education systems. There is a need to create competencies, new ways to measure performance, and more meaningful transcripts depicting what students know and are able to do.

Part IV. Policies that Hinder Personalized Learning and Suggested Changes, Incentives and Supports

Changes to state statutes, policies and regulations could promote the development of personalized learning systems throughout the state. The chart below identifies seven key areas that are significantly hampering local districts' ability to implement personalized learning.

Key Areas	Policy Barriers that Hinder	Suggested Changes, Incentives, and Supports
<i>Competency-based System</i>	Credit-based system that awards credits (Carnegie Units) based on seat time.	<ul style="list-style-type: none"> • Suggested change: Revise existing statutes from credits based on seat time to awarding credits based on certified teacher-validated demonstrated competencies that apply to all students, are aligned with standards and are assessed in a similar ways across the state (e.g. school district assessment, digital portfolios, other competency assessments determined and monitored by a student’s certified teacher). • Suggested support: Develop training programs at the state or regional level to assist teachers in developing assessments to measure competencies in credible ways. • Suggested support: Adjust legal and regulatory framework (transportation, legal liability) to support learning outside the traditional school environment (i.e., internships, work-based learning). • Suggested support: Develop process for creation, review, and approval of non-school based programs and instructors that increase student choice and opportunities to demonstrate mastery of competencies as validated by certified teachers. • Suggested incentive: The CSDE should support districts or networks of districts pursuing personalized learning in order to encourage innovation, the development of models and commitment to personalized learning in local school districts. Award planning grants to districts seriously committed to this work.

Key Areas	Policy Barriers that Hinder	Suggested Changes, Incentives, and Supports
<i>Time</i>	Statutes related to school day and school year and calculation of graduation rates	<ul style="list-style-type: none"> • Suggested change: Revise existing statutes so awarding of credit is not bound by the school day/school year. • Suggested change: Revise existing statutes related to student transportation to allow greater flexibility and access for students seeking to pursue schooling outside the school building. • Suggested change: Revise funding statutes to support flexibility in pursuing multiple paths. • Suggested change: Revision of existing statutes to enable calculation of graduation rates in a manner consistent with personalized learning and so students and schools are not penalized because of the time it takes for students to master graduation competencies. • Suggested support: Districts should have access to a repository of best practices for allowing flexible pacing. The repository should include input from schools of education and examples of personalized learning practices that show research-based effectiveness with disadvantaged students.
	Students progress only through grades at fixed intervals in time	<ul style="list-style-type: none"> • Suggested change: Revise statutes to allow students to progress based on demonstration of competencies as opposed to attending school for 6 hours a day, 180 days a year for 13 years. • Suggested change: Modify state reporting guidelines to allow flexibility in the provision of interventions to students with special learning needs. • Suggested support: Districts should have access to a repository of individual student profiles that support students progressing through school using continuous progress as opposed to traditional grade designations. The repository should further include input from schools of education and examples of individual student profiles that have been effective with disadvantaged students.

Key Areas	Policy Barriers that Hinder	Suggested Changes, Incentives, and Supports
<i>Multiple paths of study</i>	Lack of support and incentives.	<ul style="list-style-type: none"> • Suggested support: Provide models for Capstone and Student Success plans so they are strongly aligned with state and school district graduation standards. • Suggested change: State legislature creates policies that promote multiple pathways such as workplace, internship, independent study, early college enrollment, or project-based experiences outside of school and ensure equal opportunity for access to such paths. • Suggested change: State legislature encourages partnerships with local businesses and nonprofits to provide students with authentic learning opportunities. • Suggested change: State legislation or waiver agreements to the child labor laws to allow all students access to authentic learning opportunities. • Suggested support: State and CSDE encourage use of competencies across subject areas based on the nature of the task, project, or assignment. • Suggested support: Encourage use of existing Career and Technical Education certificates to promote competency-based graduation.
<i>Assessment</i>	Assessment based on grade-related standards	<ul style="list-style-type: none"> • Suggested change: Flexible access to state assessments based on student readiness. • Suggested support: A consortium of CSDE working with schools of education, administrators, teachers, the state High School Reform task force, recommend graduation standards with rubric guides for student assessment and exemplars. • Suggested support: CSDE works with Regional Service Centers to create examples of formative assessments that help teachers determine if students have mastered competencies. • Suggested support: CSDE provides a portfolio of data systems to track student progress through a personalized learning system, provided such systems protect student and faculty privacy and are not shareable across districts except for the purpose of providing information for students who change districts. • Suggested support: CSDE provides model systems of assessment that enable districts to conduct self-study and evaluate progress toward competencies.

Key Areas	Policy Barriers that Hinder	Suggested Changes, Incentives, and Supports
<i>Accountability</i>	<p>State and local accountability is based on student achievement at fixed points in time</p> <p>Mastery of competencies not required for graduation.</p>	<ul style="list-style-type: none"> • Suggested change: Revise existing statutes to establish a Mastery Based Diploma as a function of demonstration of competencies that can be acquired using multiple paths and differing lengths of time. • Suggested change: Establish continuous data-based inquiry that ensures sub-groups of students are moving at appropriate paces toward graduation and if not, triggers additional student supports. • Suggested change: The SPI and DPI should be revised to reflect learner-centered accountability on multiple measures rather than time-based accountability in limited subject areas. • Suggested support: CSDE engages stakeholders in order to develop understanding of a competency-based system and develop urgency for change.
	<p>Graduation rate calculation currently based on 4-year completion</p>	<ul style="list-style-type: none"> • Suggested change: Revise statutes to reflect a 3-6 year high school graduation time frame that includes model/exemplar trajectories and progressions toward graduation. • Suggested support: Model self-study for a district - how district can measure success through alignment with state standards. • Suggested incentive: Provide waivers and flexibility to schools that are innovating with personalized learning environments.
	<p>Higher education acceptance</p>	<ul style="list-style-type: none"> • Suggested support: IHE issues a statement of support or a MOA to post-secondary institutions to allow student transition to higher education under a competency-based graduation system.

Key Areas	Policy Barriers that Hinder	Suggested Changes, Incentives, and Supports
<p><i>Teacher & Administrator Preparation and Evaluation</i></p>	<p>CSDE standards for program approval for teacher preparation institutions prepare students for current educational system rather than a personalized learning system</p>	<ul style="list-style-type: none"> • Suggested change: Revision of CSDE standards to include preparation for personalized learning. • Suggested support: Teachers should be trained to become proficient in self-pacing strategies, project-based learning, formative assessments, feedback using rubrics or goals, student-led conferencing and other aspects of personalized learning environments. • Suggested support: Staff development programs are offered through the RESCs in project-based learning, formative assessments, feedback using rubrics or goals, and student-led conferencing.
	<p>Current evaluation system uses grade-based student achievement as a primary way to measure teacher effectiveness</p>	<ul style="list-style-type: none"> • Suggested change: An evaluation system based on evidence of student growth and development, effective professional practice and student progress toward district goals as measures of teacher/leader effectiveness.
<p><i>Data System Infrastructure</i></p>	<p>Current data systems support and reinforce current model of scheduling, grade reporting, and assessment</p>	<ul style="list-style-type: none"> • Suggested support: CSDE leadership, working with representatives of school administrators and teachers, works with districts and data management providers to develop and implement changes needed to current scheduling and data systems and to create incentives for providers to adapt to a personalized learning model.
<p><i>Public Understanding</i></p>	<p>Lack of a CSDE strategic communication plan to build support for personalized learning.</p>	<ul style="list-style-type: none"> • Suggested change: CSDE builds a strategic communication plan to encourage public understanding and support for personalized learning and the changes required for students to learn in this model.

When these policy barriers are removed and with substantial encouragement and support from the state legislature and CSDE, school district policy makers will be able to begin implementing personalized

learning systems. It is vital to engage local stakeholders in the discussion and delineation of the aspirations of schools and how they translate into local policies and practices.

Conclusion

Our world is rapidly changing in ways that will require greater flexibility and independence of our students. If we are to prepare Connecticut's children to meet 21st Century demands, we must transform our 20th Century system of teaching and learning. The reforms embodied in a personalized learning system will enable us to accomplish this transformation. By empowering students to determine personalized paths of study encompassing a broad range of potential learning experiences, a personalized learning system promotes student agency, independence, and self-determination. By involving students in deep and continuous reflection on their learning performance in both formative and summative assessments, a personalized learning system embeds constructive response to critical feedback as an essential and expected habit of work. By requiring students to demonstrate their readiness for advancement through mastery of rigorous standards, a personalized learning system builds the expectation that successful performance is the desired outcome of the learning enterprise. In a personalized learning system, all children in the State of Connecticut will leave our schools having repeatedly proven their independence, self-determination, resilience, and ability to succeed. We should require nothing less, for they deserve nothing less.

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