Strengthening High School Teaching and Learning in New Hampshire's Competency-Based System

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ALLIANCE FOR EXCELLENT EDUCATION

While a high school diploma was once sufficient to secure a stable job with benefits, almost two-thirds of new jobs in the fastest-growing sectors of the U.S. economy now require some postsecondary education and/or training.[1] Unfortunately, few American students attend high schools that feature the necessary combination of high standards, engaging curriculum, and instructional methods that prepare students to graduate prepared for college and a career.

Effective teachers and school leaders are the most critical in-school factors for improving outcomes for students. Now more than ever, teacher and leader development must be appropriately integrated within the framework of college- and career-ready standards, personalized instruction, and richer assessments to serve all students well. While teachers and education leaders strive to bring richer forms of learning experiences into their classrooms, they must also grapple with how to advance students based on demonstrated mastery versus the traditional units of time spent physically seated in a class.

Given the growing national interest around competency-based learning, this report examines efforts under way to redesign high schools in New Hampshire. The Granite State offers the benefit of relatively long-term experience in working with school districts to design competency-based systems, and its student and educator population is easily observable. While New Hampshire is relatively small—a little over 1.3 million residents in 2011—it has 175 school districts and depends on local implementation for any changes to the education system. This report features information gathered from personal visits to two New Hampshire high schools that have transitioned to a competency-based system, including an examination of their pioneering work and the impact on educators' roles and instructional practices.
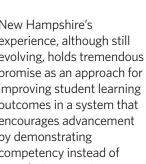
In 2005, New Hampshire undertook a sweeping high school redesign initiative that included the introduction of competency-based learning as a means to determine student progress. This report reviews New Hampshire's efforts to redesign high school education, with a focus on the teachers and leaders charged with engineering new approaches to improving student achievement, especially competency-based learning.

New Hampshire's experience, although still evolving, holds tremendous promise as an approach for improving student learning outcomes in a system that encourages advancement by demonstrating competency instead of completing seat time.

Competency-Based Learning

- **Students advance upon mastery of the subject.**

- **Competencies include explicit, measurable, transferable learning objectives that empower students.**

- **Assessment is meaningful and a positive learning experience for students.**

- **Students receive timely, differentiated support based on their individual learning needs.**

- **Learning outcomes emphasize competencies that include the application and creation of knowledge, along with the development of important skills and dispositions.**

Source: C. Sturgis and S. Patrick, "When Success Is the Only Option: Designing Competency-Based Pathways for Next Generation Learning" (Vienna, VA: International Association for K–12 Online Learning Along with Nellie Mae Foundation and MetisNet, November 2010), http://www.competencyworks.org/wp-content/uploads/2012/04/iNACOL_SuccessOnlyOptn.pdf (accessed January 4, 2013).

New Hampshire was the first state in the nation to eliminate the long-standing Carnegie unit—a measure of the amount of time a student has studied a subject—and replace it with a competency-based system that allows students to demonstrate mastery of course content without regard for seat time. In 2005, in order to create opportunities for local schools to experiment with competency-based models, New Hampshire began actively transitioning from a time-based system. This policy change occurred within the context of a rapidly shifting economic environment in which high-wage, medium-skilled jobs were disappearing. At the time, more than half of the projected new jobs in New Hampshire required college-educated workers.[2] However, the state was nineteenth in the nation in the rate of postsecondary enrollments and relied on the immigration of skilled workers to fill the most lucrative jobs.[3]

A 2005 report on the states' high schools painted a picture of schools as places where students were "disenfranchised both psychologically and academically and lacking in real-world connections."[4] The report urged teachers, as part of professional learning communities, to assume a critical role in changing the education system for students. Criticizing commonplace regimens bound by course schedules and traditional classroom teacher roles, the report concluded that "as educators, we need to make sure we are not shutting doors on kids" and called for

- **personalized learning that could happen anytime, anywhere;**

- **greater student engagement in authentic learning opportunities; and**

- **high standards that encompass the range of knowledge, skills, and dispositions graduates need to succeed as productive members of their communities.**

The urgency to redesign high schools mounted with widespread recognition of the dire economic consequences facing young adults who lacked a high school diploma and/or some level of postsecondary education. Beginning in 2006, Governor John Lynch challenged districts to improve high school graduation rates and eliminate all dropouts by 2012. Following the call to action, leaders from the New Hampshire Department of Education (NHDOE) gathered input from more than 600 representatives from nearly every high school in the state and a number of interested groups.[5] A consensus emerged to build the redesign around the essential learning outcomes that students must have upon graduating from high school to be successful and contributing citizens in the twenty-first century. As the NHDOE stated,

Every student deserves a course of study that allows him or her to learn in a deep, meaningful, and practical way. Not only do students need to know

facts, they need to know how to apply those facts to new situations, how to solve problems, and how to expand their knowledge and opportunities.[6]

A major development occurred in 2005 when the NHDOE revised the state's Minimum Standards for School Approval.[7] The new standards called for school districts to replace the Carnegie unit with a system that requires students to master essential course-level competencies as determined by a performance assessment. To facilitate the transition, districts had the option of defining the school year based on the number of hours of instructional time each year rather than the traditional 180-day calendar. Districts were encouraged to develop more innovative pathways whereby students could fulfill credit requirements by accessing extended learning opportunities at various times and places not necessarily within the school walls. The goal of the revised standards was to ensure that

- **each student would receive a rigorous, personalized education;**

- **students would fulfill credit requirements by demonstrating mastery of course-level competencies; and**

- **local educators and community stakeholders would lead the way in developing new high school delivery models.**[8]

The responsibility of defining course competencies fell to districts and schools and required significant changes around teaching and learning.

1 First, educators would need to be much more explicit about what content to teach and what students needed to learn.[9]

2 Second, they would need to mobilize intense and sustained improvements in instructional practice and learning environments by building professional learning communities.

3 Third, community and school leaders would need to draw resources from inside and outside the school to connect students' learning to real-world settings. Ultimately, principals and teachers would have to claim responsibility for the close-in work of reshaping classroom teaching and learning in relation to explicit student learning goals.

States and localities have rarely engaged in the kind of deep-level work that is at the core of the design and implementation of a competency-based system. For its part, the New Hampshire state government designed enabling policies codified in the revised standards for school improvement, developed technical advisories on alternate pathways to high school graduation, and provided

support through professional learning centers and NH e-Learning for Educators, called OPEN NH.[10] This online professional educator network supports high school redesign efforts by offering courses such as developing competencies, using Web 2.0 tools for twenty-first-century learning and teaching, and engaging students with digital portfolios.

At the same time, the state recognized that major change would have to come from within local systems. In addition to defining course-level competencies, school districts would need to decide on appropriate assessment methods and define the sufficiency of evidence for students to demonstrate mastery of course competencies. High schools received the flexibility to harness local resources and utilize technologies in developing innovative, personalized pathways that allow students to have different options for completing course work and staying on track to graduation.[11]

The NHDOE's support of policies that encourage competency-based learning and different approaches to professional development spurred substantial innovation across the state. The department's guidance promoted shared leadership among teachers, students, and communities in setting the vision and direction of the school and called for new approaches to professional development to enable teachers to "step outside the box of the familiar."[12] Local high school redesign initiatives yielded positive results at specific sites and demonstrated that a competency-based model is possible and can produce increased student learning and graduation rates. To mobilize strong implementation across districts, the New Hampshire State Board of Education set a three-year window for districts to establish alternate pathways for students to earn a meaningful diploma. By School Year (SY) 2008–09, *all* local school boards in the state had to ensure that students could earn high school credit by demonstrating mastery of required course competencies.

To maximize educator effectiveness and capacity, Virginia M. Barry, PhD, commissioner of education, is leading the design of a comprehensive teacher evaluation framework with extensive assistance from practitioners, higher education professionals, and other stakeholders. The framework includes the four pillars of

- pre-service education;

- educator induction with mentoring;

- professional development; and

- teacher and leader evaluation.

State and local educational leaders are collaborating to develop coherent teacher development systems that use appropriate formative data to improve teaching quality within a professional learning community environment.[13]

> Course performance, rather than standardized test scores, matters most in predicting high school and college success.

Early Adopter High Schools: Sanborn and Spaulding

To observe firsthand how these state policies are being implemented in New Hampshire's high schools, the author traveled to the southeastern part of the state to visit Sanborn Regional High School and Spaulding High School. Sanborn serves 754 students in grades nine through twelve from three socially and economically diverse communities—Kingston, Newton, and Fremont—where most residents work in the local seacoast area. Spaulding has a student population of 1,701 students in grades nine through twelve from the tri-city region, which includes Rochester, Somersworth, and Dover. About 10 percent of Sanborn students and 23 percent of Spaulding students receive free or reduced-price lunch.[14]

Over the past several years, these high schools have been deeply involved in making the transition to a competency-based system. Principals Brian Stack of Sanborn and Ron Seaward of Spaulding embraced the opportunities and flexibility the new state policies provide to achieve a common purpose. Both are leading a complex process to redesign school structures and competency-based learning and assessment that will afford every student a meaningful and rigorous learning experience. These high school leaders share with their faculty a passionate commitment to placing students at the center of the learning process and finding ways for students to pursue their interests and passions inside and outside the traditional educational environment.[15]

The response and role of teachers and teacher leaders were a critical part of implementing a competency-based learning system that embraced being able to "learn in a deep, meaningful and practical way." The initial phase required teams of educators— including subject-area teachers, curriculum specialists, and special educators working within a single high school or throughout the district—to establish approximately three to five competencies per course that students must demonstrate to earn credit. These are accompanied by rubrics that link levels of learning with the types of questions and assessments students will need to complete to demonstrate mastery. Performance tasks requiring lower levels of cognitive demand call for students to identify, illustrate, and calculate. At the upper levels, students must analyze, design, and apply concepts. At the lower levels, for example, students would be required to identify three ways in which humans impact and alter the stability of ecosystems; at the upper levels, they would analyze the impact of human disturbance on ecosystems using a case study. To show a course competency, students must demonstrate deeper learning, which includes the mastery of academic content and the application of knowledge and skills in novel and non-routine ways. The focus shifts from content coverage to performing curricular tasks, assessing learning, and providing feedback on students' progress toward mastery. Even though students must meet a specified proficiency level on formative and summative performance assessments, they receive recurring and varied opportunities over different time periods to acquire and demonstrate the knowledge and skills they need to earn course credit.[16]

Designing these competencies required a shared understanding of expected performance within and across subject areas and agreement about what would constitute sufficient evidence of student mastery.[17] The competencies called for inquiry-based approaches that encourage *doing with understanding* rather than focusing on broad content coverage and recall of discrete facts. Their design and implementation invokes ongoing discussion and inquiry about student work and how content and curricular activities can reinforce each as part of interdisciplinary projects.

To ensure common expectations for student learning and performance, teachers communicate the expectations for mastering course competencies to students and repeatedly refer to them during instruction and assessment.

Along with the newly developed course competencies and assessments, both Sanborn and Spaulding instituted new grading policies based on a growing body of research that shows that course performance, rather than standardized test scores, matters most in predicting high school and college success.[18] Instead of a zero or an F, students receive a rating of "Not Yet Competent" or "Insufficient Work Submitted." Students who receive one of these ratings have additional opportunities to master the subject matter and skills related to a specific competency rather than having to repeat the entire course. To further support this change in course performance, teachers use "second-chance assessment opportunities" and common formative assessments to make instructional adjustments based on students' knowledge and skills. Both Sanborn and Spaulding use a "rolling grade" system that provides multiple snapshots of students' progress toward course proficiency. In addition, students are given separate ratings for academic dispositions that are essential for deeper learning and success in school and beyond. Students receive ratings on their abilities to self-monitor, collaborate, set goals, and persist in meeting challenging goals—called "Twenty-first Century Expectations" at Sanborn and "Student Professionalism" at Spaulding.[19] These important competencies are shown to have a direct positive relationship to students' school performance as well as to future academic outcomes.[20]

Principals Stack and Seaward voice similar perspectives on reinforcing what matters most through the school's grading policies. The new grading system includes distinct ratings of student attainment of course competencies, based on common rubrics for assessing student growth and ability to set goals, organize their time, and self-assess their work. Resetting grading structures aligned to a competency-based model is essential to fostering student engagement and commitment in pursuing challenging learning goals. It also requires a strong professional development effort to help teachers transition to new roles as coaches, mentors, and facilitators of student learning. To empower teachers to become more active designers of curriculum and student-centered learning environments, they must have extensive opportunities to learn and improve their practices.

Leadership teams including subject-area teachers, curriculum specialists, instructional and assessment coaches, and special educators at each high school examined the meaning of grades, the feedback they provide, and their impact on students' motivation and opportunity to learn. Stack and Seaward both strongly challenge fundamental assumptions about the legitimacy of using failing grades to punish poor performance.

> "A freshman may quickly accumulate zeros and find it difficult to recover from low grades and low credit accumulation. We cannot afford to let a student fail because of a series of poor choices," Michael Turmelle, assistant principal and curriculum director at Sanborn, explains. "The no-zero policy takes away the emotional judgment for non-performance and refocuses attention on finding what works to help the student get back on track."

Under the new policies, students get help when they need it, receive different types of support, and play an active role in designing experiences that accelerate and extend their learning. Spaulding students who do not achieve competency within the expected amount of time are guided in a process of learning using a range of face-to-face or digital options to address knowledge and skill gaps. For example, recovery systems using the online learning system PLATO have been reconfigured for competency completion. Students have reported that the adapted versions are more rigorous and aligned to course content than the initial credit recovery programs.[21] Both schools reported significant drops in course failures and dropout rates since implementation began in SY 2009-10.[22]

Starting in SY 2009-10, Sanborn phased in the competency-based system with a new cohort of students, beginning with the freshman class. Spaulding instituted the system in all grades. In both high schools, students undertake cross-disciplinary assignments that require a mix of independent work, teamwork, and study groups to complete. Recognizing that students progress at different rates, the schools provide multiple and varied opportunities to demonstrate progress and receive ongoing feedback. Students at Spaulding reported that as the expectations and demands for course work increased, they had to calibrate differently what effort would be required to advance. Even as the specter of failure receded, the students reported that the work was far more challenging. Yet they welcomed the increased rigor and the opportunities to interact with teachers and their peers in ways that deepened their understanding and challenged their ideas.[23]

Building on competency-based advancement, the no-zero policy set in motion the design of personalized instructional models and pathways that would embrace students' experience and identity. For example, Spaulding offers students an extensive set of program options, including

- **dual enrollment;**

- **Advanced Placement courses;**

- **"running start" programs through community colleges and technical schools;**

- **adaptive online, blended, and distance learning options through virtual high schools; and**

- **learning academies.**

In addition, students may select from an array of career and technical education programs, independent study, career internships, work study, and community education programs.[24]
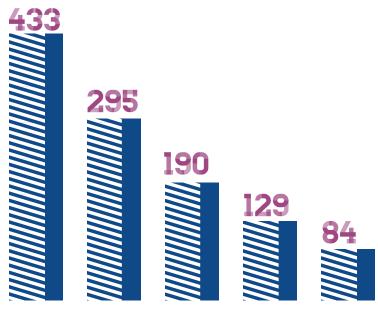
Expanding Professional Learning Communities That Support Competency Advancement

In addition to providing a similar array of programs, Sanborn also created small learning communities to provide students with more personalized and coherent learning experiences based on team-wide, course-level competencies. Based on research linking the social capital that educators produce through collaboration to gains in student achievement, Sanborn launched a freshman learning community (FLC) under the leadership of Assistant Principal Ann Hadwen.[25] A core group of teachers, including English language arts, social studies, science, mathematics, technology, information literacy, and wellness instructors, work collaboratively to develop course competencies, design integrated units of study and common performance assessments, monitor students' individual progress, and provide support as needed.

The Sanborn FLC connects teachers across subject areas, focuses attention on how to integrate competencies into daily teaching practices, and develops a common understanding of what student success looks like. To advance student learning to high levels, teachers continuously answer these four essential questions: [26]

1. What do students need to know and be able to do?

2. How will we know when they have learned it?

3. What will we do when they have not learned it?

4. What will we do if they already know it?

The emphasis on constant learning and collective responsibility for every student's progress has challenged educators to reflect on their practice and its impact on student learning. The effort produced improvements in student engagement and learning. Over a five-year period, the number of reported discipline issues for ninth-grade students at Sanborn decreased, going from 433 in SY 2007–08 to 295 in 2008–09, 190 in 2009–10, 129 in 2010–11, and just eighty-four in 2011–12. The number of course failures for freshmen declined as well, dropping from fifty-three students in SY 2007–08, prior to the start of the pilot program, to nineteen in 2008–09, fewer than five in 2009–10, and two in 2010–11. Once the program was fully implemented, the total number of overall course failures for freshmen decreased from seventy-two in SY 2010–11, prior to the start of the full FLC program, to just thirty in 2011–12.[27] In April 2012, Sanborn's FLC received the Magna Award from the National School Board Association and the *American School Board Journal* for innovation and excellence.[28]
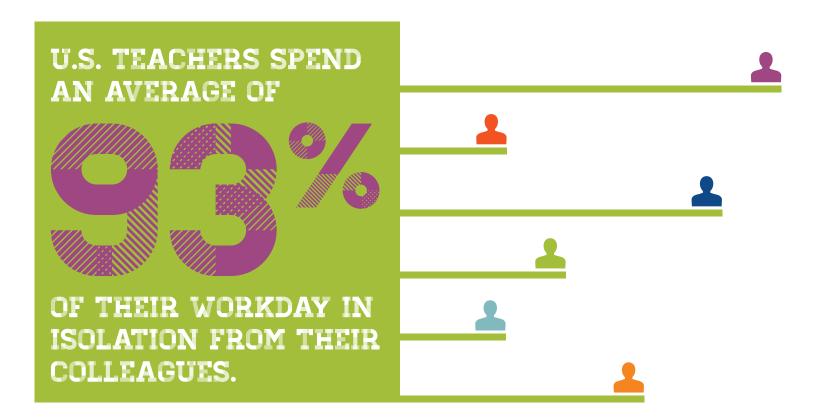

433   295   190   129   84

The number of reported discipline issues for ninth-grade students at Sanborn over a five-year period (SY 2007–08 to SY 2011–12).

Building on the FLC pilot, Sanborn Assistant Principal Turmelle will lead the phase-in of a sophomore learning community comprised of social studies, English, and science classes. In subsequent years, juniors and seniors will have the option to participate in "career pathway" learning communities to connect student learning and career goals with real-world experiences. Teams of teachers work interdependently to improve students' engagement, ownership of learning, and mastery of course-level competencies. These professional learning communities have the autonomy to collectively define course work, determine the duration and location of instruction, and create innovative approaches to interdisciplinary, applied learning. As Principal Stack says,

> "In most traditional high schools, both time and instructional supports are closely tied to the school schedule, which is often extremely rigid. If a school lacks flexibility, answering questions about how to intervene or provide students with extended learning opportunities to meet their learning needs becomes difficult, if not impossible."

Moving from delivering content as an autonomous act within the traditional classroom (*what's taught*) to a collective, results-orientation environment (*what's learned*) calls for educators to take on new roles as designers, facilitators, coaches, and mentors. Effective teachers facilitate the mastery of content and skill development, and identify and employ appropriate strategies for students who are not attaining mastery. Achieving these improvements in both the learning process and student outcomes requires comprehensive and consistent teacher collaboration.[29]

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Unfortunately, as documented in the 2009 *MetLife Survey of the American Teacher: Collaborating for Student Success*, U.S. teachers spend an average of 93 percent of their workday in isolation from their colleagues.[30] School leaders moving to a competency-based model must create structures for teachers to work collaboratively to design meaningful learning opportunities for all students.

Recognizing the importance of collaboration in a competency-based environment, Spaulding Principal Seaward created a decisionmaking structure that constantly fosters opportunities for all staff to participate in advancing the school's mission of achieving high levels of learning for all students. For example, cadres of coaches, drawn from the ranks of high school faculty and led by district-funded curriculum and assessment specialists, have expertise in competency-based assessment and instruction and provide support to content-area teachers as part of a learning community. The high school provides substitutes on a rotating schedule so teachers can come together to understand both the goal and the path to competency-based learning by examining student work and formulating sound judgments about what students know and can do.

In addition, the coaches help teachers to understand learning progressions—progressive sequences by which most students acquire specific core concepts and skills within a subject area—which enables teachers to determine how students are progressing toward mastery. Coaches facilitate reflective dialogue to help teachers answer questions such as "What feedback is most appropriate?" and "What instructional adjustments make sense?" The goal of these collaborative efforts is to improve teachers' individual and collective practice so they can help all students learn and master deeper learning skills, and also apply their knowledge and skills to novel situations.

New Hampshire: Next Steps in System Design Incorporating Competency-Based Advancement

Paul Leather, the deputy commissioner of the NHDOE, leads the state's high school redesign within a competency-based system. In an interview with the author he talked about the department's effort to move away from a compliance orientation to one that focuses on developing the knowledge and skill of frontline practitioners.[31] Specifically, Leather identified three steps for advancing this work:

1. **Integrate the Common Core State Standards (CCSS) as part of the state's competency-based system.**

2. **Devise a comprehensive networked strategy to build on and expand the design work of early implementers of a competency-based system.**

3. **Balance local control with statewide accountability and comparability.**

Leather notes that since 2005 local districts and schools have grappled with how to design a competency-based system, with different levels of success. "Schools are floundering to create support for deeper learning through the design of student-generated assessments," he observes. "There is a general cry for increased support and capacity to develop course-level competencies and a clear need to ensure greater commonality across the state."

The NHDOE is committed to creating a balanced and robust system of assessments by 2015 that will include the assessments being developed by the Smarter Balanced Assessment Consortium, for which New Hampshire is the governing state.[32]

A critical second component will include performance assessments to evaluate students' competencies that cover rigorous academic content, adaptive skills, and critical dispositions. The NHDOE plans to work with local districts in developing comparable rigorous classroom-embedded performance assessments aligned to the CCSS.

Under the state's direction, the Center for Collaborative Education (CCE), in partnership with the National Center for the Improvement of Education Assessment, will work with statewide committees of leaders, practitioners, higher education professionals, and content experts to design high-quality, common performance tasks for a three-year rollout at the high school level in mathematics, English language arts, social studies, and science.[33] The CCE has worked with Rhode Island and Massachusetts in building the capacity of high schools to use performance assessments as a driver of authentic student learning. Leather emphasizes that the performance tasks will "sit under all other design elements—course content, extended learning opportunities, and use of digital learning—to make curriculum as transparent and as portable as possible."[34]

The early move to competency-based education gives New Hampshire's school districts a head start in preparing for the new demands of the CCSS, which were adopted by the state in July 2010.[35] The NHDOE plans to create a web-based bank of local and common performance assessments aligned to the CCSS, procedures for regional scoring sessions and local district peer review audits, and a regional network of support to districts and schools. This department assistance will allow educators to focus their time on using content, curricular tasks, and digital learning to meet the needs of individual learners. Leather says that high schools can best ensure the personalization of learning by designing varied methodologies and systems for students to attain and demonstrate competencies as part of pathway approaches and expanded student options. He adds that "current measures of college and career readiness often fall short in assessing readiness dimensions that are meaningful for the individual learner."[36]

Leather also emphasizes the need to build the capacity of educators to have deep levels of content knowledge, discipline-specific pedagogy, and assessment literacy to teach and assess a rigorous common core–aligned curriculum using complex performance tasks. To that end, New Hampshire is developing a fully "networked" approach to connect districts to one another and to provide targeted forms of support and expertise for high school educators. The NHDOE will provide an information platform to facilitate virtual collaboration among leaders, practitioners, higher

education, and communities while at the same time seeding the transformation of structures, practices, and technology tools.

In addition, online data systems will support research-based collective improvement and the design of cutting-edge, innovative, student-centered approaches to learning. These systems, in conjunction with multi-site professional learning communities, will enable educators to accelerate the pace and productivity of students' progress and yield models that are more personalized, rigorous, and, ultimately, cost-effective. These smart online systems will help guard against a competency-based approach resulting in some students being stranded on a lower-level track or falling behind.

More than a decade has passed since New Hampshire first experimented with competency-based approaches as a foundation for improving student learning outcomes, changing pedagogy and the educational process, and driving the creation of a truly collaborative professional learning community. Now the state has put forward this model as the centerpiece of its Elementary and Secondary Education Act waiver application to the U.S. Department of Education, submitted in September 2012. As states and districts across the country receive the flexibility to reimagine new forms of schooling, competency-based approaches like those undertaken in New Hampshire are increasingly being developed and demonstrating initially promising results. New Hampshire's experience provides an excellent opportunity for other states to review the effective design, systems, practices, and policies needed to ensure the capacity of teachers and leaders to implement competency-based learning for all of the nation's students.

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