Transforming Learning through Competency-Based Education

States are adopting a range of policies to personalize student learning and move away from seat-time rules.

by Susan Patrick

Teaching and learning are changing drastically in the wake of COVID-19, and once-skeptical K-12 system and school leaders are increasingly responding to students' academic needs with competency-based learning models. State boards of education and other state leaders should examine the rationale and structures that underpin these student-centered solutions and work to transform their systems.

The prevailing one-size-fits-all K-12 model is not meeting—and perhaps never met—the needs of all learners. Today, half of learners reach adulthood without obtaining minimal skills at the secondary level. Fewer than one in five American students follow a clear, uninterrupted path from high school through college to career.[1] The promise of a public education is to prepare all learners to engage in, contribute to, and achieve purpose in the world, both as it is today and as it will be. Tweaking the traditional education system will be insufficient to realize this commitment.

State boards that are serious about preparing students for success in the future economy should embrace whole-system transformation, realizing that there can be no truly student-centered systems without significant shifts in policy and practice. An important first step is to create space in state policy for practitioners and educators to redesign learning. Such policies could, for example, provide greater seat-time flexibility, create competency-based education pilots, or establish innovation zones.

What Is Competency-Based Education?

Competency-based education, also called mastery-based or proficiency-based learning, bases student advancement on mastery of skills and academic content rather than age, seat time, or hours on task. A competency-based structure is built upon personalized learning experiences tailored to each student's strengths, needs, and interests and requires student voice and choice in what, how, when, and where they learn. If a student does not demonstrate adequate proficiency to advance, they must be provided with supports and interventions that help them fill the gaps in their knowledge and skills.

The organization I head, the Aurora Institute, published a five-part working definition of competency-based education in 2011. We expanded this definition

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in 2019 to reflect our conviction that, for all students to achieve mastery, competency-based education had to center on equity and that we had not emphasized student agency, flexible pathways, and equity sufficiently in our first definition. The updated definition has seven elements:

- Students are empowered daily to make important decisions about their learning experiences, how they will create and apply knowledge, and how they will demonstrate their learning.
- Assessment is a meaningful, positive, empowering learning experience for students that yields timely, relevant, actionable evidence.
- Students receive timely, differentiated support based on their individual learning needs.
- Students progress based on evidence of mastery, not seat time.
- Students learn actively using different pathways and varied pacing.
- Strategies to ensure equity for all students are embedded in the culture, structure, and pedagogy of schools and education systems.
- Rigorous, common expectations for learning (knowledge, skills, and dispositions) are explicit, transparent, measurable, and transferable.

Each student gets personalized, competency-based pathways, whether they are inside or outside the school classroom. Moving away from seat-time requirements is critical to competency-based learning. Learning is the constant; time becomes the variable.

Blended or online learning can expand students' access to teachers, but this alone is insufficient. Pedagogy, structures, and culture must shift from the traditional ranking and sorting of students, which leaves many with large gaps in learning. Competency-based education instead relies on empowering students' ownership over goals and learning while ensuring teachers identify needs, pinpoint gaps, use data, and intervene immediately to address student needs.

What Does It Look Like?

In a competency-based system, students know exactly what they are learning and what proficiency looks like. Rubrics are readily available, and there are examples of student exemplary work. There may be posters on the wall for students to indicate where they are on their learning progressions. Students should be able to tell you what they are working on, how they will be assessed, how to get extra support if they need it, and what they will learn next.

As Doug Penn, principal of Whittier School in Alaska's Chugach School District, describes it, "Our community told us they wanted their children to be lifelong learners. We had to ask ourselves, what are we doing in our classrooms to help them be lifelong learners? What structures and supports do our teachers need to help develop lifelong learners? It came down to needing to have an active learning environment. Students need to be able to seek out things they are personally interested in, create a plan, and find the resources. We are always looking for ways to help students learn beyond the classroom."

Pittsfield School District in New Hampshire has created a dynamic extended learning program that enables students to build skills, demonstrate competencies, earn credit from experiences gained outside of the school environment, and partner with higher education institutions to gain college credits. These extended learning opportunities (ELOs) integrate with the competency-based structure by connecting the learning experience to core content areas. Each ELO differs based on student interest and location on their learning progression, but all involve research, reflection, and a presentation or project that links to the state academic standards.[2]

Questions driving the design of competency-based education systems include the following:

- Should schools advance students to new learning levels before they are ready?
- Should education leaders allow school systems to hold back students who are ready to advance to new learning levels?
- Should educators and leaders of education systems expect all students to learn the same material, in the same way, at the same pace?

Educators want a system that is designed to ensure students reach proficiency and are prepared to be successful at the next level. They seek a system that is student-centered and personalized. It only makes sense because students start with different sets of skills, learn

in different ways, and take different amounts of time and practice to master skills. Educators seek a system that monitors student progress and responds flexibly to student needs.

Learning gaps increase over time if students lack foundational skills in their learning progressions. In competency-based systems, by contrast, students are working at their proximal zone of development on learning targets they need for the next level of study, with frequent feedback and instructional support until they can demonstrate the skills and apply the knowledge. Failure is not an option in such systems, and no one is waiting until the end of a semester to determine whether a student has been successful.

Supportive State Policies

Born out of a hunger of preK-12 educators, school leaders, higher education, and business leaders to see students better prepared for their next steps, states across the country have begun to advance policies aimed at supporting competency-based education pathways (figure 1). States are using a variety of policy levers to do so:

- **Innovation Zones.** By creating space in state policy for local educators to design innovative education models, these zones help district and state policy leaders identify outdated policies and regulations that may be blocking innovation. They allow local districts or schools to request a waiver from policies and state regulations that communities have identified as a barrier to achieving high-quality, student-centered learning outcomes. These are called "districts of innovation" or "schools of innovation" in some states.
- **Competency-Based Education Task Forces.** State education decision makers can study competency-based education and the related policies and practices needed to enable it through a statewide task force with diverse stakeholder input. Members of the task force interview experts and educators from competency-based education systems, research and analyze supportive policies and barriers, determine how to improve the capacity of educators to work in a competency-based learning environment, and set recommendations.
- **Competency-Based Education Pilots/ Grants.** Such pilot programs support the development of new learning models, incubate innovations in teaching and learning,

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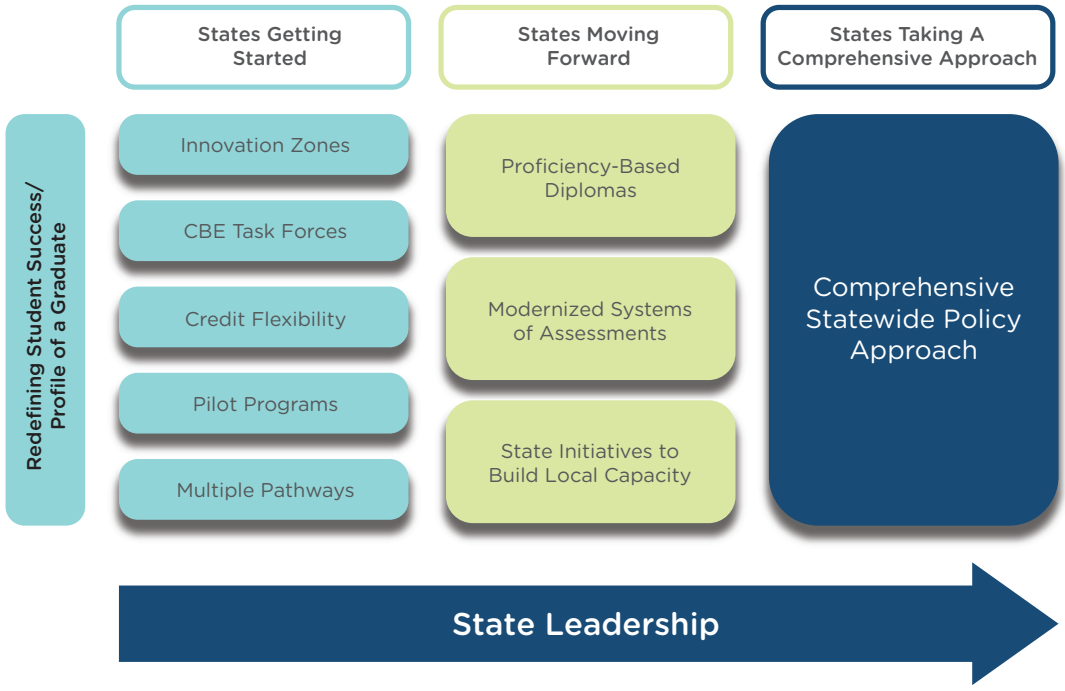
Figure 1. Promising State Policies to Advance Competency-Based Education



Box 1. Profile of a Virginia Graduate

The Profile of a Virginia Graduate is a powerful driver for Virginia's efforts to transform education. In 2016, HB 895 required the Virginia State Board of Education to create the profile. In 2017, the state board approved revised Standards of Accreditation and updated graduation requirements for the class of 2022. These state board regulations (8VAC20-131-51) go beyond the requirements of HB 895 and require all graduates to "acquire and demonstrate foundational skills in critical thinking, creative thinking, collaboration, communication, and citizenship in accordance with the Profile of a Virginia Graduate." Local divisions are connecting into the Virginia Is for Learners Innovation Network, a statewide initiative building educator capacity for innovation, aligned with the state's new vision of success.[a]

[a]Alexis Chambers and Natalie Truong, "Profile of a Graduate to Redefine Student Success for the Future," Aurora Institute blog (May 4, 2020), https://aurora-institute.org/blog/profile-of-a-graduate-to-redefine-student-success-for-the-future/; Diane Atkinson, "Virginia Rethinks High School in Its Profile of a Graduate," *State Education Standard* 17, no. 2 (May 2017).

and offer insights into promising practices that can scale across the state. Typically, pilots are limited to a specified number of districts initially, with the goal to expand. Educators work through planning stages, identify core design elements, and communicate what competency-based education systems look like and how they work. Pilots offer a community of innovative practice statewide, with professional development, to build educator capacity for competency-based pedagogy and structures. This capacity building includes shifts in grading, reporting, and assessing performance tasks as students create evidence of mastery, and it fine-tunes strategies to develop a true mastery-based system through exhibitions of student work. While innovations in schools are taking hold, state policymakers can foster collaboration across pilot sites to spread best practices through regional communities of practice.

- **Credit Flexibility.** Credit flexibility is often a crucial step toward learner-centered systems. Supportive state policy offers students ways to earn credit through demonstrations of mastery—building knowledge, skills, and competencies—and provides a functional equivalency of seat-time credits. Such policies may redefine traditional Carnegie Units into specific standards and competencies. Proposed in 1906 as a basis for measuring schoolwork as time-based credits, a Carnegie Unit represents a single subject taught for one classroom period for five days a week.[3] These units measure contact hours in a classroom, not learning, and form the basis of high school graduation transcripts. They do not result in meaningful diplomas that report on student mastery.
- **Profile of a Graduate.** Across the country, states are creating a profile of a graduate to modernize their vision for student learning and achievement. These profiles articulate the knowledge, skills, and dispositions students should have upon graduating high school so they are prepared for college, careers, and civic life. To create these profiles, state leaders have partnered with communities and engaged educators, families, and the business community to determine what is essential for their students to thrive after K-12. The profiles, therefore, represent an important strategy to align K-12 education systems to a more holistic vision of student success. With clear, comprehensive definitions of success, states can begin to transform their education systems in a coherent way, allowing invested stakeholders from across the preK-12 workforce to work together to help students succeed at every level (see box on Virginia's Profile of a Graduate). States looking to modernize their education systems should begin by setting a "north star" in a graduate profile that defines student success upon graduation, then designing backward what it takes to deliver on the promise for every student.
- **Competency-Based Pathways Aligned**

across K-12, Higher Education, Career and Technical Education, and Work. The promise of competency-based education is the power to create alignment across K-12, higher education, and the workplace through pathways. Most advanced global education systems are competency based and align across primary, secondary, and tertiary levels. In the United States, the time has come to build competency-based systems to equip all students with meaningful experiences and opportunities for powerful learning at every stage of development. State boards can support multiple pathways to graduation that create opportunities for community-based learning, dual enrollment, paid internships and work-based learning that support student interests as they also gain real-world skills and experiences.

- **Modernized Assessment Systems.** There is a rising call for updating assessment models to certify student mastery of knowledge and skills and provide more timely feedback to educators and parents on students' progress in their learning. A growing number of states are examining how to create slimmed-down, more balanced systems of assessment, as well as student-centered and community-responsive accountability models with reciprocity. Such efforts require building local capacity, modernizing and diversifying the educator workforce, and examining root-cause analysis of the inequities inherent in current systems.
- **Initiatives to Build Capacity for Change.** Building local capacity also means connecting districts with research and experts, providing technical assistance, professional development for specialized training, and peer learning networks. We recommend states expand opportunities for professional learning on competency-based education systems, development of leadership, and engagement of diverse stakeholders and community actors around redefining success and examining the purpose of preK-12 education systems.

Competency-based education grows from the ground up, and it is springing up in more districts. The Aurora Institute estimates that 8 to 10 percent of U.S. school districts are piloting or working toward competency-based learning. Seven years ago, far fewer states had policies to support K-12 competency-based education. As can be seen in figure 2, nearly half of all states in 2012 were designated as having no policies to support competency-based education. Today, 49 states are taking steps to create enabling policies to support next-generation, competency-based learning models (figure 3).

Evidence for Moving toward Mastery

A substantial body of evidence supports the effectiveness of individual practices that collectively comprise high-quality, competency-based education. In a national study, AIR found "promising evidence that students' experiences of specific CBE practices are indeed associated with positive changes in learning dispositions, skills, and behaviors."[4]

New Hampshire's Performance Assessment for Competency Education (PACE) program focuses on building educator capacity to pilot assessments that measure student learning in key competencies. In a 2017 evaluation sponsored by the Center for Innovation in Education, researchers found that PACE had a substantial positive impact on both teaching practice and student learning. Researchers found increased student engagement and deepened learning when competency-based performance assessments were implemented as intended.[5]

Other evidence emerges from district initiatives. An evaluation of Alaska's Chugach School District found that student performance on the state achievement test rose over a five-year period from the 28th to the 71st percentile in reading, from the 26th to the 72nd percentile in language arts, and from the 54th to the 78th percentile in math.[6] Similarly, California's Lindsay Unified School District, which implemented a learner-centered model, reported student proficiency on the state test from the Smarter Balanced Assessment Consortium growing from 26 percent to 47 percent.[7]

Marzano Research Laboratory found that students were more likely to score proficient on state tests if they attended schools using the competency-based approach articulated in the Reinventing Schools Coalition (RISC) framework than if they attended non-RISC schools selected based on comparable demographics within each of three states. Compared with students in eight non-RISC districts, the likelihood of students in seven RISC districts scoring

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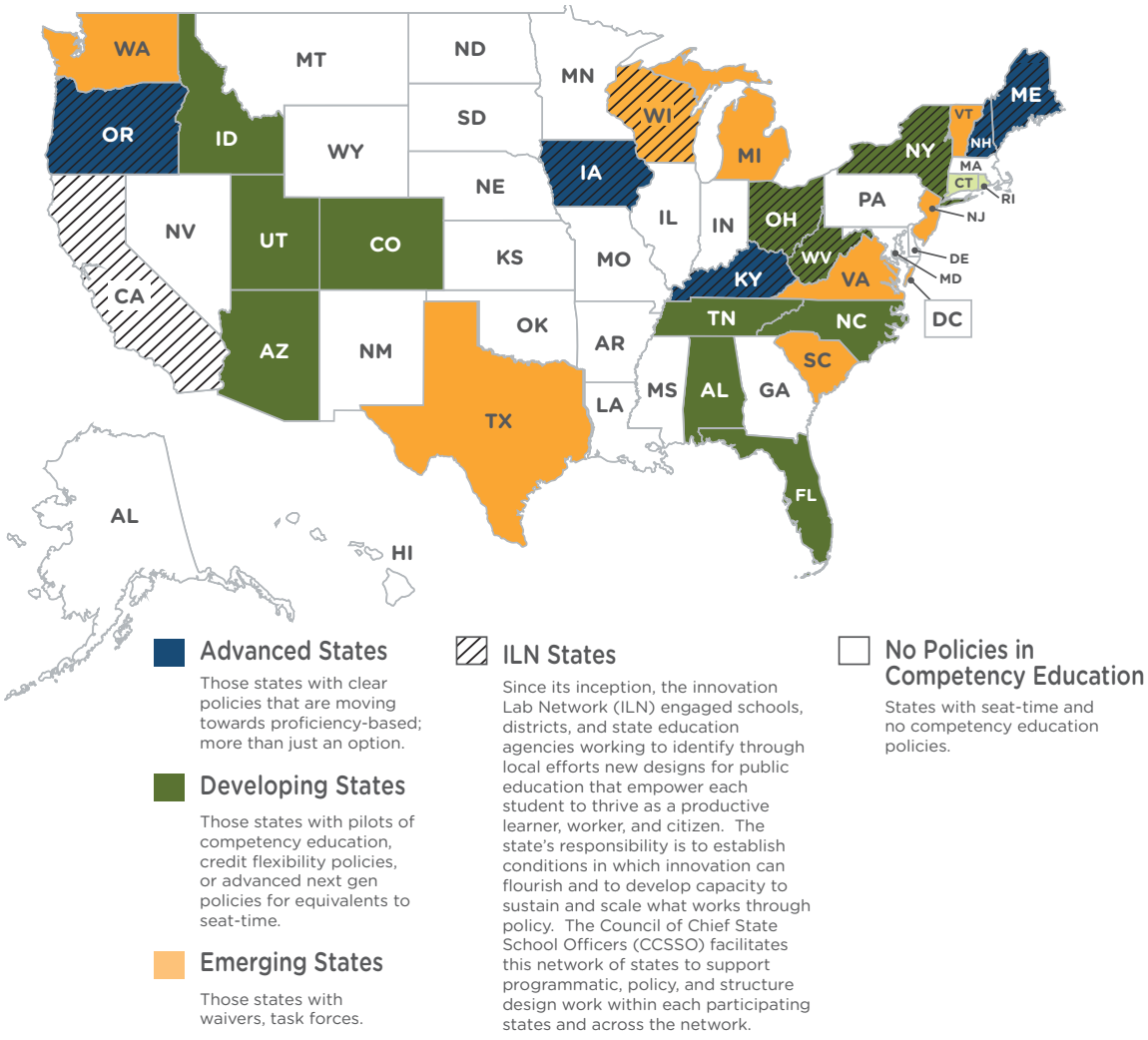
Figure 2. States Advancing Policies to Support K–12 Competency-Based Education, 2012



proficient or above on state tests was 37 percent higher in reading, 54 percent higher in writing, and 55 percent higher in mathematics.[8]

Brodersen and Randel's 2017 study of a competency-based district in Westminster, Colorado, found that 43 to 47 percent of students who were behind their traditional grade levels completed their performance levels in three or fewer quarters, less time than it would take in a traditional education system.[9]

The Work Ahead

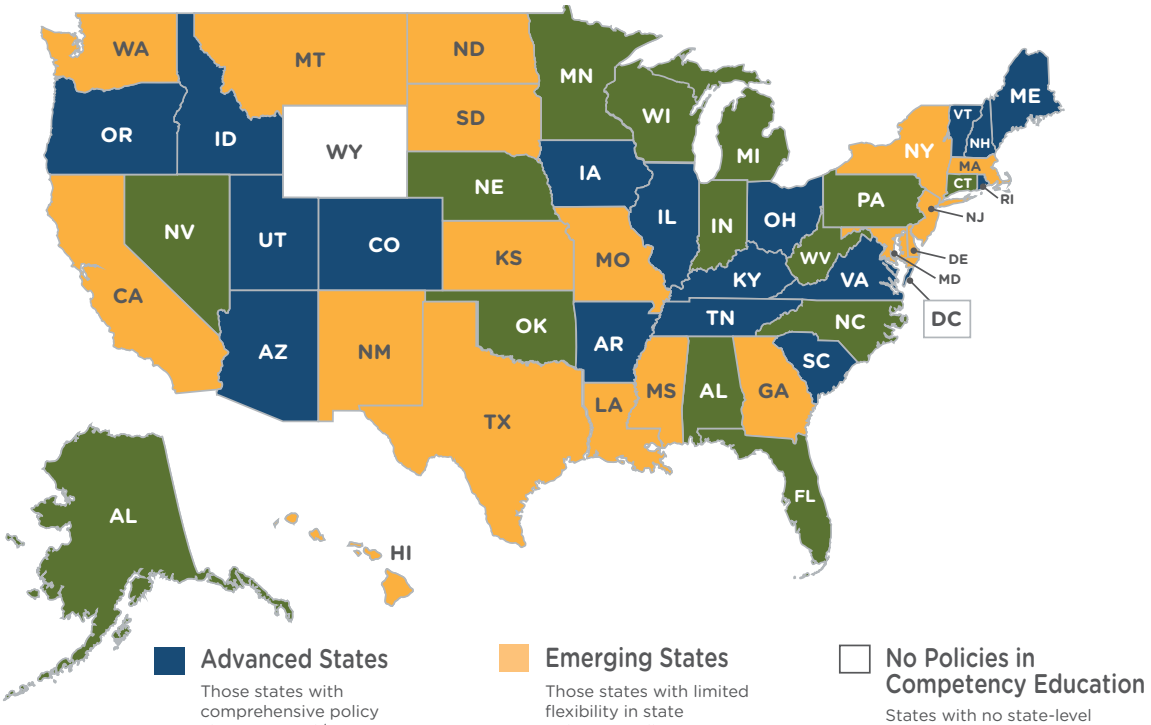
Whether or not COVID-19 proves to be a watershed moment for preK-12 education, teachers and leaders cannot snap back to old models of teaching and learning. It is a time of unprecedented change in the lives of most Americans. Amid the call to finally realize the promise of social justice and equity and a growing awareness of the threat that widening inequality poses for the economic, social, and democratic fabric, education leaders ought to seize the moment to reimagine education.

I have visited schools around the world that are reexamining the purpose and goals of their education systems and came away increasingly concerned that traditional U.S. education systems were not built to support all students' needs at a personalized level. State policy can shift—from language that locks in seat-time policies toward language that defines the knowledge and skills to prepare all students for higher levels of learning, careers, and civic engagement.

If one silver lining comes out of the pandemic, it is the deepened understanding that learning can occur anytime, at different paces, and in different places. It is a clarion call to address the systemic inequities inherent in current systems.

State boards can spark the change. They

Figure 3. States Advancing Policies to Support K–12 Competency-Based Education, 2020



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

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

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

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

can ensure that educators and administrators develop the knowledge and skills they need to lead the equitable learning designs of tomorrow, and they can ensure school systems access the highest and best thinking about innovations that work. And teachers and leaders who have experienced the promise of competency-based education need to recommit to robust continuous improvement that will create systems in which every student succeeds. ■

[1]Oren Cass, "How the Other Half Learns: Reorienting an Education System That Fails Most Students" (New York: Manhattan Institute for Policy Research, 2018).

[2]Chris Sturgis, "Hand in Hand: Pittsfield Integrates Personalized Learning and Competency Education," CompetencyWorks blog (February 27, 2014), http://www.competencyworks.org/uncategorized/hand-in-hand-pittsfield-integrates-personalized-learning-and-competency-education/.

[3]"Structure of the US Education System: Credit Systems" (Washington, DC: United States Department of Education, 2008), https://www2.ed.gov/about/offices/list/ous/international/usnei/us/credits.doc

[4]Erin Haynes et al., "Looking under the Hood of Competency-Based Education: The Relationship between Competency-Based Education Practices and Students' Learning Skills, Behaviors, and Dispositions" (Quincy, MA, and Washington, DC: Nellie Mae Education Foundation and AIR, 2016).

[5]Arthur Thacker and D.E. (Sunny) Becker, "Formative Evaluation of New Hampshire's Performance Assessment of Competency Education (PACE)," Summary Report (Alexandria, VA: Human Resources Research Organization, March 10, 2017), https://a633434a-8c4b-4ae1-91a4-673ee5f3be53.filesusr.com/ugd/10b949_696ca7f8484c4418825bee921fbc6c5f.pdf.

[6]Richard Delorenzo et al., *Delivering on the Promise: The Education Revolution* (Bloomington, IN: Solution Tree Press, 2009).

[7]Barry Sommer and Abinwi Nchise, "Building Solid Evidence—It's Working at Lindsay Unified," Lindsay Unified School District, https://drive.google.com/file/d/0B6QRjuxlEcioUmUtSVNIQnRaelZ6al8yN1V1eld6R0R5cUc4/view.

[8]Mark W. Haystead, "RISC vs. Non-RISC Schools: A Comparison of Student Proficiencies for Reading, Writing, and Mathematics" (Centennial, CO: Marzano Research, 2010).

[9]R. Marc Brodersen and Bruce Randel, "Measuring Student Progress and Teachers' Assessment of Student Knowledge in a Competency-Based Education System," REL 2017–238 (Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central), https://ies.ed.gov/ncee/edlabs/regions/central/pdf/REL_2017238.pdf

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