



International Center for  
**Leadership in Education**

REDEFINING COLLEGE  
AND CAREER READINESS  
FOR THE 21<sup>ST</sup> CENTURY

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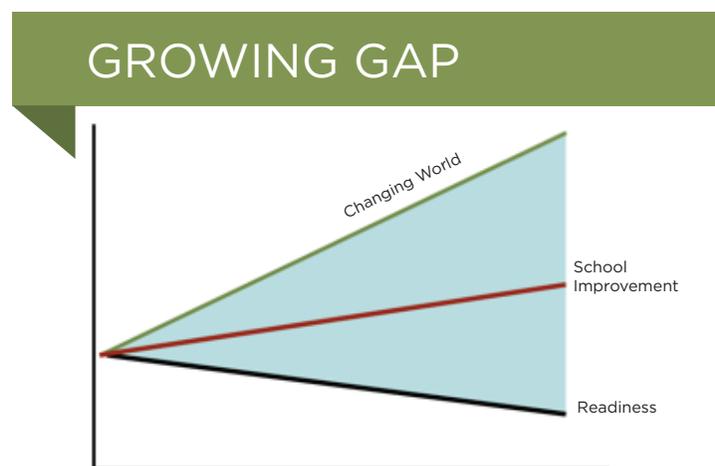


# THE GROWING GAP IN EDUCATION

The world continues to change at an ever increasing pace, which no longer is on a linear path, but an exponential rate of change. Technology continues to advance and change the way in which we live and work, with everything from a robotic lifeguard who recently saved two swimmers in an Oregon riptide, to a team of scientists who are closing in on how to print a 3-D heart from a person's own cells. As the world continues to change, how have our schools been asked to respond? By adding more tests, requirements, regulations, and rules to our existing 20th century school structure and continuing to prepare students for an outdated world view of leaving K-12 education to enter college. As educators, we need to focus on creating and embracing a transformational change to our culture and systems; we are surrounded by endless transformative pressures — both internal and external — that will reshape public education whether we choose to or not.

Significant among external variables are the increasing globalization of the economy, a rapidly evolving digital environment and capacity, and growing access to measurable data along with demands for accountability and return on investment in all fields, including education. America's unemployment level — although improving — remains high, especially in sectors that have provided sustaining lifestyles for the middle class in the past. While high-skill and low-skill jobs remain unfilled, many jobs "in the middle" have been automated, shipped overseas, or eliminated altogether by changing needs, lifestyles, and technologies. Policymakers express concern about how/if medium-skill jobs will return to the levels of the past. Others see in initiatives such as "right-to-work" legislation the commoditization of medium-skill level labor. Then there's the aging of the American workforce, with all its implications for both productivity and dependency. Our job as educators is to prepare students to enter this ever changing world and become productive members of society. How we do that has always been the challenge, but the current scope, nature, and rate of change are unprecedented.

Within public education, related internal factors and ingrained assumptions are at work. As one example, consider one of America's most deeply embraced beliefs: a four-year college degree is the passport to success in career and life. This assumption needs to be challenged. Some might argue, in fact, that a bachelor's degree has become a false premise and a broken promise. College is no longer the gateway to all of the good jobs that will equip a graduate for lifelong self-sustainability. Neither is the assumption accurate that more college is better than less college.



A recent study<sup>1</sup> showed that the average salary of Tennessee college graduates of two-year colleges is higher than four-year college graduates because of the demand for workers in technology fields. Furthermore, the cost of earning a four-year or advanced degree has risen, in some cases, beyond any reasonable assessment of return on investment. Many underemployed college graduates are finding themselves trapped in a temporary job “until a real one comes along,” clinging to false hope and crippled by daunting student loan debts. As more students prepare for some form of post-secondary education it’s important for them to understand that a college major can be a driving force to predict future employment, a potential career path, and financial success. In other words, what you major in matters.

In fact, the Federal Reserve Bank of *New York’s Quarterly Report on Household Debt and Credit Outstanding* reported in late 2012 that student loan debt was \$956 billion, just under \$1 trillion and increasing at a 20% annualized rate, with unprecedented default rates higher than —“serious delinquency” rates for consumer loans. According to the *Wall Street Journal*, “since the end of 2007, just before the financial crisis hit, total student debt has grown by more than 56%, adjusted for inflation... During that time, overall household debt — including mortgages, student loans, auto loans and credit cards — fell by 18%, to \$11.31 trillion as of Sept. 30.”<sup>2</sup>

At the K-12 level, the No Child Left Behind Act of 2001 (NCLB) has had substantial impact. Its mandates on state standards and testing heightened K-12’s emphasis on accountability and results. NCLB was a well-intentioned bipartisan initiative. Some of its requirements have proven to be very successful but it has also lead to some unintended consequences. Its emphasis lead to a narrow focus mostly on who was not learning, not on why, what, and how students were (or were not) learning. What we have been measuring for the last decade is what was most easily measured, not what is most important to be learned and assessed in today’s rapidly changing world. Teachers have been trained for the 20th century world of teaching and increasingly experienced pressures such as regulations, certifications, tenure, and contracts intent on keeping that worldview intact.

## CHANGING THE STATUS QUO

In our work at both the International Center for Leadership in Education and the Successful Practices Network, we have talked with schools, policymakers, educational institutions, and business and industry leaders to determine what skills and knowledge students need when they leave school to be prepared to be responsible citizens and contribute to the global economy. This work was a part of a five-year study with the Council of Chief State Schools Officers (CCSSO). We came to the conclusion that schools need to be on a path of preparing all students to be college AND career ready. This conclusion seems simple in it’s presentation, but to be college and career ready in the 21st century world is drastically different than our current 20th century school structure. As the five-year study concluded with an emphasis on increasing expectations, the Common Core State Standards (CCSS) and Next Generation Assessments (NGAs) were designed to raise the bar on what and how learning is measured. Preparing students for college and careers shifted the focus

<sup>1</sup>Big Gaps in Earnings for Tennessee College Grads  
[http://www.air.org/news/index.cfm?fa=viewContent&content\\_id=2060](http://www.air.org/news/index.cfm?fa=viewContent&content_id=2060)

<sup>2</sup>[http://www.cbsnews.com/8301-505145\\_162-57555780/student-loan-debt-nears-1-trillion-is-it-the-new-subprime](http://www.cbsnews.com/8301-505145_162-57555780/student-loan-debt-nears-1-trillion-is-it-the-new-subprime)

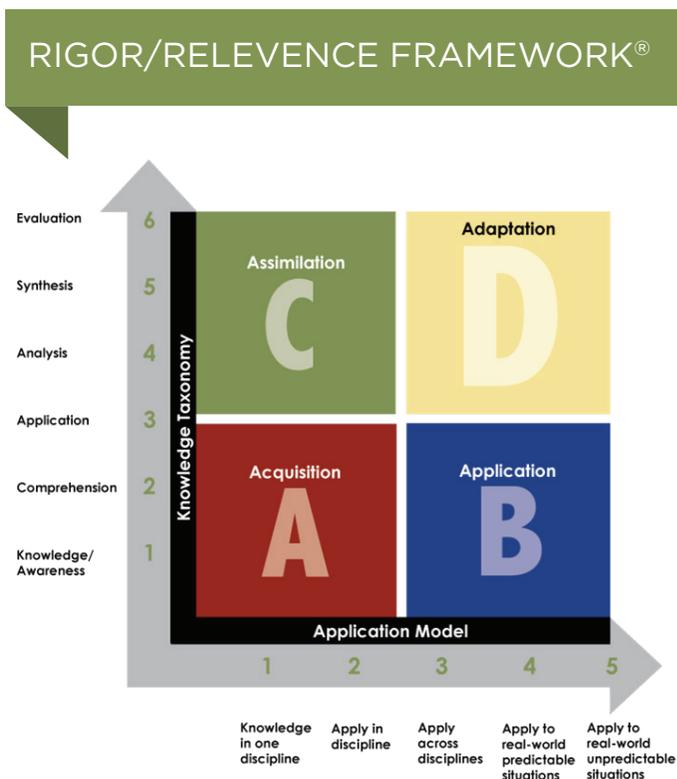
from knowledge acquisition and memorization, to knowledge application and a deep level of problem solving. As states and local districts struggle with budgetary issues, the capacity of schools to implement, support, and sustain the new standards and assessments is very challenging.

This shift is clearly illustrated and can be supported through the use of the Rigor/Relevance Framework®, a tool developed by the International Center to examine curriculum, instruction, and assessment. The Rigor/Relevance Framework is based on two dimensions: the Knowledge Taxonomy and the Application Model. The Framework is divided into four quadrants, with the lowest level of knowledge and application in Quadrant A and high level knowledge and real world, unpredictable application in Quadrant D. As you see here, the vertical axis is the Knowledge Taxonomy, based on the six original levels of Bloom’s Taxonomy. Along the horizontal axis is the Application Model, which describes putting knowledge to use. Academic standards and state tests have historically been in the A quadrant, career and technical education (CTE) courses or ensuring students are job ready falls into the B quadrant, college prep or college ready is found in the C quadrant, and career ready is found in the D quadrant. Many schools feel that they have been on a decade-long “forced march” to increase student performance as measured by our traditional tests.

Those tests have typically measured the A quadrant of the Rigor/Relevance Framework. The call to make students career ready changes that focus from Quadrant A to Quadrant D. That is a very substantial change in direction, especially given the rules and regulations put into place to ensure teachers are successful in the A and C quadrants.

As some states and districts experience backlash to the implementation of the Common Core State Standards, we need to remember the issue is not the CCSS or NGAs or new teacher evaluation requirements. The issue is simply: are students being adequately prepared for success in their future and career experiences? CCSS, NGAs, and teacher evaluation are simply some of the strategies or tools that will get students to be college and career ready. They are a means to an end, not the end. Unfortunately too many schools and policymakers are treating them as the end in and of themselves.

The job of educators should not focus on preparing students for the next grade or more school, but should ensure that at whatever point students leave school they are ready to be productive members of society. Several emerging organizations and initiatives have the power to support the change in our schools’ focus using the new standards and assessments as a path and strategy to ensure our students are college and career ready.



**U.S. students rank 14<sup>th</sup> in reading, 25<sup>th</sup> in math, and 17<sup>th</sup> in science**  
(compared to other industrialized nations, 2009 PISA results)

- Disruptive technologies offer the promise of individualizing and supporting learning, as well as making content more rigorous, relevant, engaging, and personalized for students. Teaching will need to focus less on presenting knowledge and more on facilitating learning.
- The new assessments being developed for states' use by the two consortia, Partnership for Assessment of Readiness for College and Careers (PARCC) and Smarter Balanced Assessment Consortium (SMARTER), put equal emphasis on formative and summative assessment. Assessment will become more focused on continuous improvement and growth, less on point-in-time performance.
- After years of managing, supervising, and maintaining compliance with and sustaining current systems, many leaders, however, are recognizing the need to remove barriers, structures, and regulations in order to provide more top-down support for classroom learning. Leadership's role is changing to become more empowering, collegial, and cooperative.

With these external and internal factors in play, K-12 education may look back on 2013 and 2014 as “the swing years” that provided a pivotal opportunity to shape its future direction. Education needs to change and adapt from where it has been to where it needs to go. In short, a reality check is needed, and the imperative to do so is now.

## A CAREER READINESS REALITY CHECK

International comparisons of our schools are not fair because our nation's commitment to both excellence and equity causes us to focus resources and time on our most challenging students that other nations do not serve as well. However, our students individually and we as a nation collectively must still be able to successfully compete against workers in other nations. A report released last year by the Council on Foreign Relations<sup>3</sup> made an alarming connection between the state of U.S. education and national security. Even though the United States invests more in K-12 education than the majority of other developed nations, our students are still performing well below our global peers. According to the results of the 2009 Program for International Student Assessment (PISA), an international assessment that measures the performance of 15 year olds in reading, mathematics, and science every three years, U.S. students rank 14th in reading, 25th in math, and 17th in science compared to students in other industrialized countries. This lack of preparedness to compete on a global scale is evident not just in the international assessment rankings, but also demonstrated by:

- 25% of students fail to graduate from high school in four years. For Hispanic and African-American students that number is closer to 40%.
- A decrease in the number of schools teaching a foreign language, and only two out of every 10 Americans speak another language in addition to English.

<sup>3</sup><http://www.cfr.org/unit-ed-states/us-education-reform-national-security/p27618>

- Among college-bound seniors, only 43 percent met college-ready standards, meaning that more college students need to take remedial courses.

The Council on Foreign Relations report details how this lack of preparedness has a direct correlation to our national security in five main areas: economic growth and competitiveness, physical safety, intellectual property, U.S. global awareness, and U.S. unity and cohesion. Condoleeza Rice, former Secretary of State, further shared that approximately 70% of U.S. citizens ages 17 to 24 are ineligible for military service due to a number of factors such as: being physically unfit, inability to pass a basic literacy test, having a criminal history, past or current use of drugs and alcohol, and lacking a high school diploma. Looking at those same categories from a business leader and employer's perspective, these same young people are also functionally unemployable in a high-skilled, competitive, global economy. If these young people are ineligible for military service and deemed unemployable by business and industry leaders, what does their future hold?

The parallel drawn between education and our national security is no coincidence because education and the world outside of school are quite possibly more closely interdependent and mutually reliant than ever before. As economic, political, social, and technological realities change, education needs to get in step. America's position as a leader in global diplomacy, education, military prowess, and economic output depend on it.

The American dream of college for all is being challenged by the realities of technology and the global marketplace, which have caused significant shifts in U.S. employment and the nature of the American workforce. Creating a shift from college OR career ready to college AND career ready for all students will require a different set of skills and abilities. In the past, college ready has meant a collection of Carnegie units, a series of AP courses, and a decent ACT or SAT score, whereas career ready focused on acquiring technical skills, participating in a CTE program, or working toward a certification — but both put students on drastically different paths with neither producing exemplary results. The challenge we are faced with today is ensuring the factors that make students successful in college and careers are the same: the ability to learn and apply new information, problem solve, communicate and collaborate with peers, and contribute to the greater good of society. If we can focus on teaching and then measure these more broadly defined characteristics it will be a better indicator of whether a graduate is truly prepared for a successful life after high school. The focus of K-12 and higher education needs to make a dramatic shift from what classes students have taken to what students are able to do. College and post-secondary education needs to be seen as a means to the end, not just the end of a student's learning cycle.

In a recent report, 64% of U.S. companies reported that they are struggling to hire candidates with experience or a background in management, science, computers, and engineering.<sup>4</sup> This inability to fill open positions has a direct correlation to where students end up for their post-secondary education: remember, what you major in matters. Less than a third of American students graduate with their first university

**70% of U.S.  
citizens ages  
17 to 24 are  
ineligible for  
military service**

<sup>4</sup>James Manyika, Susan Lund, Byron Auguste, Lenny Mendonca, Tim Welsh, and Sreenivas Ramaswamy, "An economy that works: Job creation and America's future," McKinsey & Company, 2011, [http://www.mckinsey.com/Insights/MGI/Research/Labor\\_Markets/An\\_economy\\_that\\_works\\_for\\_US\\_job\\_creation](http://www.mckinsey.com/Insights/MGI/Research/Labor_Markets/An_economy_that_works_for_US_job_creation).

degree in a field of science or engineering. In comparison, more than half of students in China who receive their first university degree do so in a science or engineering-related field. Other nations are quickly outpacing American students, as our education system is fixated on keeping the status quo by adding new regulations and policies that are not motivated by student achievement and engagement. Standards, assessment, and instruction remain critical parts of the education experience, but an emphasis on instilling a sense of lifelong learning and engaging students in their own education will ensure that they become thoughtful, caring, productive, self-aware, and most importantly to parents, self-supporting adults.

The world we live in continues to evolve and shows no signs of slowing down. What the future holds in terms of potential learning or jobs is uncertain and barely imaginable. As educators, we cannot assume that our past focus on college preparation or specific job training will be enough for our students to be prepared for what may lie ahead. The best option we have is to redefine and restructure teaching and learning in ways that equip students to deal with the unexpected and adapt to changing circumstances. This will involve a level of retraining, not only in terms of professional development for teachers but also in the entire school community's shift in culture.

We live in an era of unprecedented access to information and core knowledge. Education must redefine itself: from learning what to learning how; from passive to active; and from acquiring and memorizing knowledge to using it. The instructional role must evolve from knowledge provider to learning facilitator, using assessment a learning tool, as well as a checkpoint or gateway to the next level. Education leadership needs to modify its role as guarder of "the system" and challenge the rules, regulations, and practices that get in the way of adopting promising and proven next practices. By doing so, state, district, and school leaders can provide top-down support for bottom-up improvement that focuses on student learning and achievement.

## CHALLENGES TO CAREER READINESS

The Career Readiness Partner Council (CRPC)<sup>5</sup>, formed in 2012, offers this explanation:

A career-ready person effectively navigates pathways that connect education and employment to achieve a fulfilling, financially secure, and successful career. A career is more than just a job. Career readiness has no defined endpoint. To be career ready in our ever changing global economy requires adaptability and a commitment to lifelong learning, along with mastery of key knowledge, skills, and dispositions that vary from one career to another and change over time as a person progresses along a developmental continuum: knowledge, skills, and dispositions that are inter-dependent and mutually reinforcing. These include:

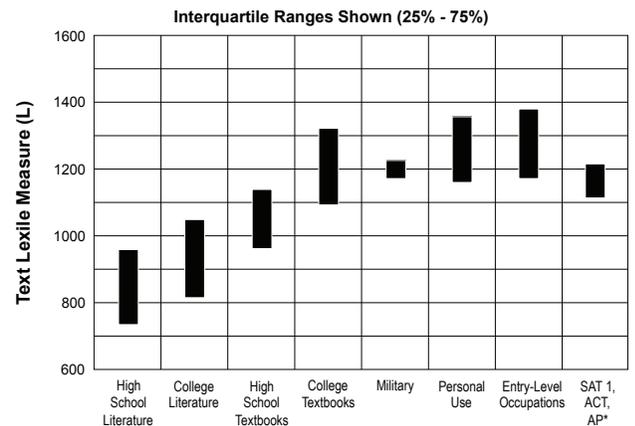
- Academic and Technical Knowledge and Skills
- Employability Knowledge, Skills and Dispositions

<sup>5</sup> Career Readiness Partner Council (CRPC), formed in 2012, is a collation of leaders from national education and workforce organizations seeking to clarify what it means to be career ready. [www.careerreadynow.org](http://www.careerreadynow.org)

## READING STUDY SUMMARY

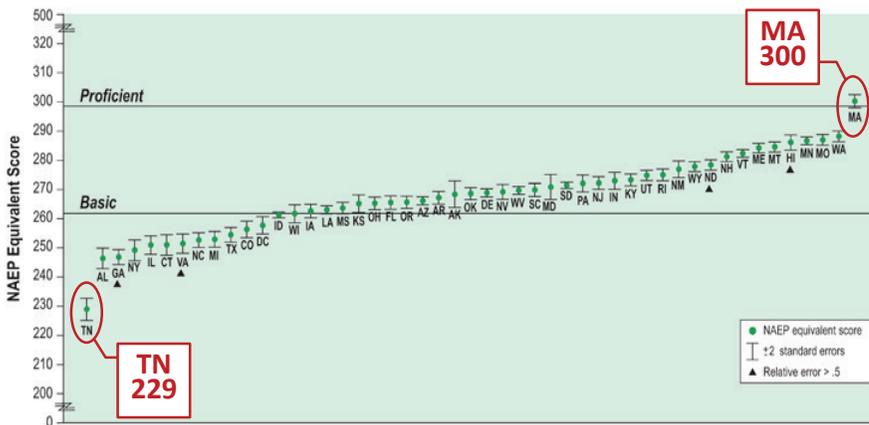
The reality is the academic skills needed for career preparation are actually higher and fundamentally different than those needed for college. This is clearly evident in the reading required of students in high school literature and textbooks. Life outside of school requires substantially higher levels of reading proficiency than most students experience in the classroom and even post-secondary education. States need to be sure that the reading proficiency thresholds account for not just traditional academic measures of reading competence, but also the skills that make individuals employable and successful in their lives after graduation. Looking at the chart that compares the Lexile<sup>6</sup> measures of high school literature and textbooks to the Lexile measures of reading required in college, the military, personal use, and entry-level occupations, the gap in expectations is clear. The reading required of high school students is not adequately preparing students for the world outside of K-12 education. Reading requirements in careers and personal life are changing at a faster rate than student performance, and schools can't seem to keep up. Adding to the challenge is that each state has the authority to determine what constitutes proficiency in reading and math. This has led to wide disparities of what is required of students, the level of education with which each student leaves school, and how states are compared. Most states' scores for determining proficiency are below the definition of Basic performance, identified by the National Assessment of Education Progress (NAEP) as the level below Proficient (See page 10 for graphic). Next Generation Assessments will require an even more rigorous set of standards to meet future levels of proficiency as measured by NAEP. As we prepare all students to be college and career ready, the Common Core State Standards provide a structure to ensure all students are on the same path — toward successful adult lives. The unrelenting use of data to track student progress will become a crucial element for schools to stay on a path of continuous improvement to increased student achievement.

As educators transition to a mindset of career readiness, it's crucial to not only focus on a requirement of higher reading and math levels, but also requiring students to be able to apply their knowledge. When looking at the skills required in college and careers, viewing it within the context of the Rigor/Relevance Framework will help to identify the type and level of thinking or work required. The Rigor/Relevance Framework can be used as a conceptual model: career readiness merges rigorous academic (vertical Quadrants A and C) and career-technical knowledge and skills (Quadrant B) with the ability to apply, solve problems, and demonstrate learning, and learning how to learn, in meaningful and challenging contexts (Quadrant D). These same skills are what the Common Core ask us as educators to prepare students for — a focus on decision making, creativity, goal setting, multitasking and collaborating with others in preparation for the future.



<sup>6</sup> <https://www.lexile.com/about-lexile/lexile-overview/>

# GRADE 8 MATH PROFICIENCY



Career readiness instruction requires a different approach and mindset from traditional classroom instruction. Career ready instruction:

- Uses “backward design” by beginning with the end in mind and focuses on interdisciplinary performance, not chunks of content knowledge
- Engages students through relationship building and awareness of individual needs, rather than teaching to the average or ideal student

- Uses a variety of instructional strategies that add relevance, not only those methods that imitate the way the teacher was taught
- Empowers students to take responsibility for their own learning instead of treating students as passive accumulators of knowledge
- Assesses student achievement in terms of demonstrated proficiency, not only correct answers
- Emphasizes how, not just what, students learn

Instruction for career readiness involves developing a mindset focused as much or more on how and why students learn as on what they learn. Career readiness skills — college-ready rigor, relevance, relationships, and self-reliance — are best developed in a context of problem-based performance tasks and self-directed, engaged learning. That vision and focus will be necessary to prepare and equip today’s students for the ever changing world of the 21st century.

## RECOMMENDATIONS

So with all these challenges and changes ahead of us, how do we move the system to where it needs to be for higher levels of student achievement? What strategies, tools, and resources need to be in place that allows teachers to be effective and efficient? As the focus and goal of K-12 education undergoes a dramatic shift it will be crucial for educators to understand and embrace the following.

**Culture trumps strategy.** First, create and nurture a district and school vision and culture that “sees,” understands, and embraces the need for college AND career readiness. This vision and culture must recognize that, of the two, “career ready” is both a higher and a different skill set. Without a shared, future-focused career-ready learning culture, other solutions and initiatives don’t make sense and will fail.

**The Rigor/Relevance Framework®.** Organizational leaders, instructional leaders, and teachers need a common, aligned conceptual framework to inform and guide learning and instruction. The Rigor/Relevance Framework provides an accessible and practical conceptual model: Quadrants A and C are focused on acquiring knowledge, traditional academics, and testing; Quadrant B represents traditional career and technical education; Quadrant D represents college AND career-ready student-centered learning.

**Use data to drive continuous improvement.** Data must be used prudently, effectively, and unrelentingly to guide and measure learning. Instead of using tests to take snapshots of student achievement at a specific time, collect and employ data regularly and consistently to measure continuous improvement. Collect data in multiple and varied forms, not only related to core academic proficiency. Have students at varying levels of proficiency been challenged and stretched to learn more? Have students been engaged so they have an interest and commitment in taking charge of their own learning? Have students' personal and interpersonal skills, attributes, and attitudes such as self-sufficiency, perseverance, curiosity, communication, respect for others, integrity, and knowing how to learn and find answers been systematically identified and developed? The Learning Criteria<sup>7</sup> provides a tool and process to address a wide array of ability and growth measures.

**Focused and sustained professional development.** Teachers and teacher leaders need enhanced and different sets of instructional skills. Almost all are products of teacher training programs that were focused on college readiness and therefore on transmitting knowledge — Quadrants A and C. Yet today's and tomorrow's world is becoming increasingly focused on application, problem solving, and performance-based learning — Quadrants B and D. Those same educators have also spent their careers in education systems and school climates that have been governed by certification, contracts, and tenure vs. instructional effectiveness. Teachers need focused and sustained professional development. We believe the most effective approach to this is a blended model of professional learning, in which teachers take part in face-to-face training, ongoing job-embedded coaching, and high quality on-demand access to an online capacity building system — such as Nextpert — to continue their learning and practice between in-person collaboration.

**Support teachers.** To enhance and extend face-to-face professional learning recommended above, it is crucial to provide teachers with tools and resources so they have what they need at their fingertips to transform instruction. Nextpert fills that need by providing:

- A trusted library of high-rigor, high-relevance lessons and application-based assessment items to use in the classroom or to customize for their specific needs
- Powerful tools to increase the rigor and relevance of their existing lessons and assessments, to use in the classroom or customize for their specific needs
- On-demand online courses and professional learning resources to pinpoint their development where they need it and do it on their own schedule
- Instant access to instructional experts to answer questions, model instruction, and coach them through their instructional challenges

By embracing these recommendations, K-12 educators will be on the path to continuous improvement and ensuring that schools focus on their true mission: preparing students to be ready for the world outside of school. The new requirements put in place are there to assist and support this mission, and with them it becomes the job of every educator to create a rigorous and relevant learning environment focused on the success of all students.

<sup>7</sup> <http://www.leadered.com/learningcriteria.html>



**SPN**

Innovating for College  
and Career Learning

This white paper was written in partnership with the Successful Practices Network, a national not-for-profit focused on innovating for college and career learning. For more information about the Successful Practices Network, please visit [www.spnetwork.org](http://www.spnetwork.org).



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