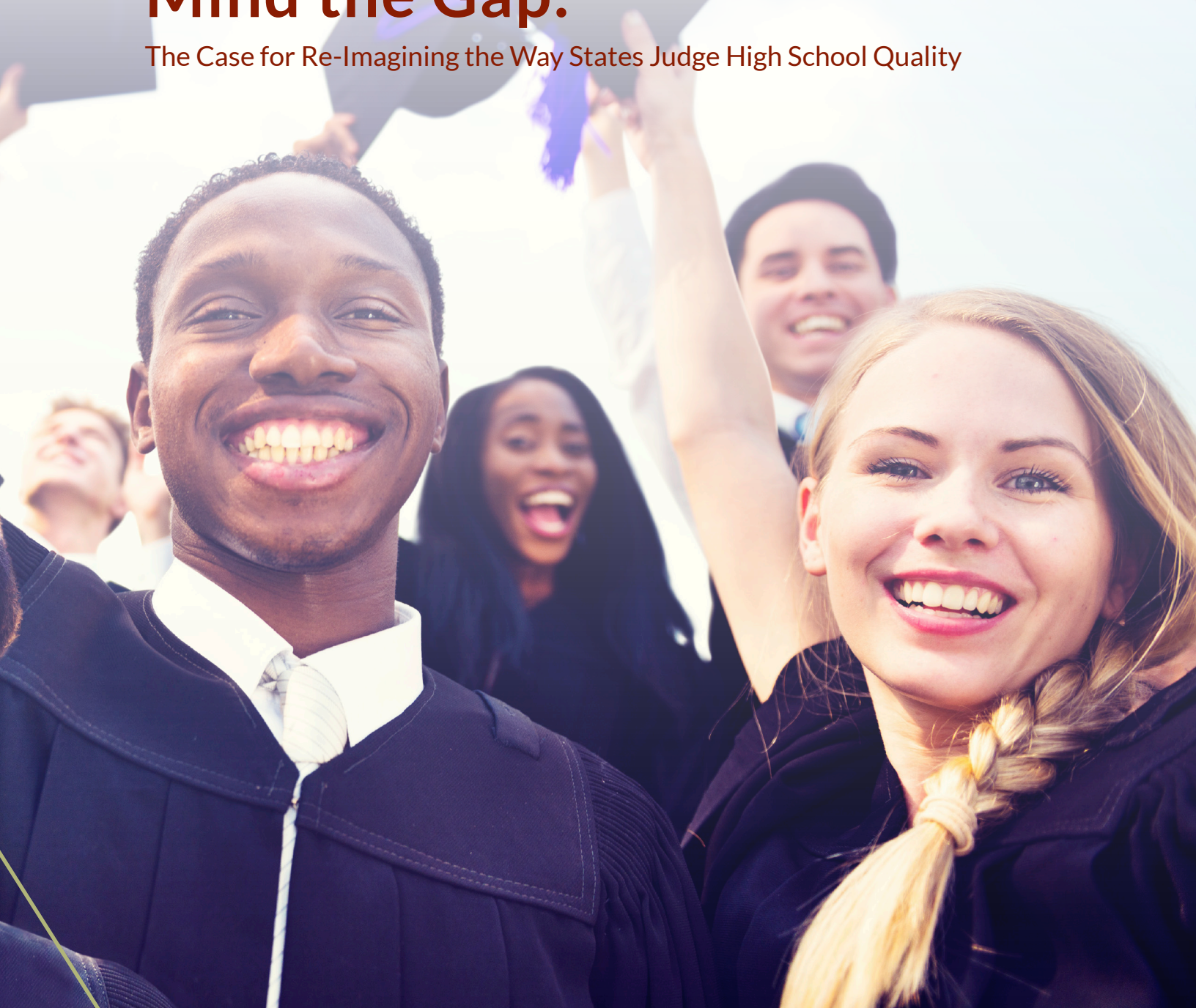


JULY 2015

Mind the Gap:

The Case for Re-Imagining the Way States Judge High School Quality



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Introduction

How would a high school judge a student's success? It might start with basic questions, like whether he attended school regularly, took challenging courses, earned good grades, and completed his degree on time. If he intended to go to college, the school could ensure that he navigated the college admissions process and hope he made a smooth transition. If he entered the world of work, the school might want to know if he landed a job with decent wages and benefits.

How should an entire high school be judged on its success? A state or district could measure how many of its students successfully managed these same steps, but until recently, it would have been unimaginable for states to track the data necessary to make this possible.

The question of how to measure high school success is not merely theoretical. State and federal policies on high schools typically reward schools that perform well on measures like test scores and graduation rates while forcing changes on those that don't. When these two measures alone serve as proxies for a quality high school they paint an incomplete picture of success, one that can reflect more on the school's demographics than its success in educating students and preparing them for the future. And instead of focusing on higher-order skills, challenging coursework, and annual progress toward college and career readiness, schools are encouraged to focus on lower-level skills and push all students through to a diploma, regardless of what they learn.

Accountability systems reflect these choices. Ideally they would reflect what society values, not what's easiest to measure. In designing accountability systems, the decisions states make on which measures to include and how much weight to give them can carry steep consequences for which schools earn rewards and which ones face sanctions and the threat of interventions.

Which measures are included in accountability systems and how much weight they're given can carry steep consequences for schools.

Fortunately, the conditions are now in place for a much richer definition of what it means to be a successful high school. With the expansion of educational data sources, a critical mass of new information about school quality now exists and is waiting to be put to good use. There is now enough information to create low-cost but sophisticated portraits of high school quality. According to the Data Quality Campaign, an education nonprofit that tracks states' progress in building and using state longitudinal data systems, in 2005 only 12 states could link K-12 with higher education data systems. By 2011, 49 states could.¹ Not only are states creating the theoretical ability to link K-12 with higher education, but more states are actually executing the reports and making them public. As of 2013, 45 states were creating publicly available high school feedback reports that provided information about high school students' readiness for and success in postsecondary education.² The next step in this effort will be linking workforce data. As of 2014, 19 states could match K-12 and workforce data, up from 11 in 2011.³

In addition to data availability, more states now have the structures and flexibility in place to implement new, more nuanced accountability systems. Through waivers to the federal No Child Left Behind Act as well as new state laws creating multifactor accountability systems (such as A-F or 5-star grading systems), states can now add elements and weight various factors in a way that NCLB's rigid Adequate Yearly Progress rules did not allow.

But capacity hasn't translated into action. Though states now have the power to design their own accountability systems as part of the NCLB waiver initiative, states mostly have stuck with the same methods of judging high schools: their graduation rates and student test scores. Today, only a handful of states are holding schools accountable for actually ensuring that students succeed in the next stage of life, be that college or a career. Out of the 42 states plus the District of Columbia that received waivers, only two incorporated high school dropout measures, 12 considered college entrance exams like the ACT or SAT, seven added advanced course-taking, and four integrated measures of career-readiness.⁴

Not all the information that policymakers may desire in a school accountability system is currently available, but there's no need to wait for the perfect system. States should not be afraid to move forward with the information they do have as they continue to expand data capabilities. The new information holds promise as a way to paint a different, more colorful picture than what current accountability systems can paint.

In the sections that follow, this paper:

- 1** Defines the challenges facing policymakers and explains why they should consider a new approach for measuring high school success.
- 2** Uses a unique data set from one state, Tennessee, to show how current high school accountability measures fall short.
- 3** Proposes a model high school accountability system and discuss trade-offs and challenges in moving to such a system.

What Gets Measured Gets Managed in Schools Too

Reforms aimed at increasing high school graduation rates and boosting reading and math scores have paid off.

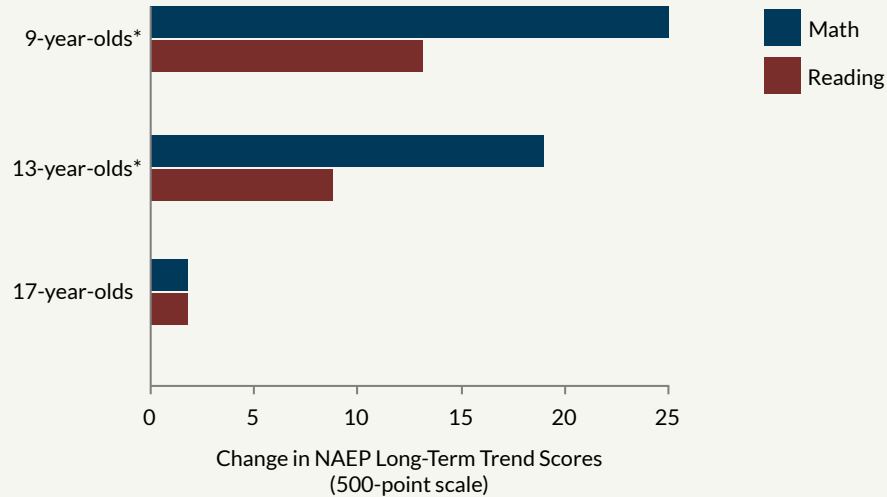
Noted management consultant Peter Drucker is credited with coining the phrase “what gets measured gets managed,” and it’s as true in American education policy as anywhere else. As policymakers enacted reforms aimed at improving basic skills and increasing high school graduation rates, the added attention paid off with rising math and reading test scores and graduation rates. But, unfortunately, those gains have not translated into comparable improvements in higher-level academic achievement or educational attainment rates.

The divergences in academic gains are stark. While fourth- and eighth-grade math and reading scores have risen the equivalent of one to two grade levels on the National Assessment of Educational Progress (NAEP) since the first test administrations in 1973 and 1971, respectively, the scores of high school students are flat (see Figure 1).⁵ Internationally, Americans aged 16-34 score at or near the bottom of developed countries on tests of literacy, numeracy, and problem-solving.⁶

Figure 1

Achievement Scores Are Rising in Elementary and Middle Schools, but Not High Schools

Changes in NAEP Math and Reading Scores Over the Last 40 Years



Source: "National Assessment of Educational Progress (NAEP), various years, 1971-2012 Long-Term Trend Reading and Mathematics Assessments," U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Note: Scores reflect changes on the NAEP Long-Term Trend assessments since they were first administered, in 1971 in reading and 1973 in math.

*Significantly different ($p < .05$) change in reading from 1971 to 2012. Significantly different ($p < .05$) change in math from 1973 to 2012.

Similarly, state and federal policies aimed at improving high school graduation rates are a strong success. The high school graduation rate declined from 74 percent in 1990-91 to 72 percent in 2000-01. After NCLB forced states to pay more attention to high school graduation rates, the rates began climbing and reached 81 percent by 2011-12.⁷ Today, nine out of 10 adults obtain some form of high school equivalent credential, and most of those are traditional high school diplomas. The number of dropout factories—high schools with a graduation rate under 60 percent—declined from more than 2,007 in 2002 to 1,359 in 2012. Similarly, the number of students enrolled in those dropout factories plummeted from 2.6 million to 1.4 million, even as the total student population nationwide increased.⁸

The high school dropout crisis is now primarily felt in particular schools and among particular student populations. In 2010, 15 percent of the nation's high schools accounted for about half of all high school dropouts.⁹ And nationwide, black and Hispanic students have graduation rates that are 17 and 13 percentage points lower than those of white students, respectively.¹⁰

The improvements in elementary and middle school reading and math scores and high school graduation rates are tied to state and federal efforts on these very issues. Policymakers should be heartened that their efforts worked, at least insofar as their narrowly tailored goals are concerned. But raising achievement levels beyond basic skills and boosting long-term educational outcomes will require different policies than the ones that succeeded in the past.

The Next Challenges

While today's teenagers do not score any higher on academic assessments, they are more likely than earlier generations to at least begin postsecondary education. Today's families see college (meaning any form of postsecondary education that leads to a degree or credential) as the logical next step following high school graduation.¹¹ Rising aspirations have translated into steadily increasing college-going rates. In 1980, half of all U.S. high school graduates went to college, and the other half went directly into the workforce. Today, seven out of 10 high school graduates head to college, while only three enter the workforce.

More than half of all students who start college fail to finish any degree or certificate program within six years. This happens for any number of reasons, but common factors include insufficient academic preparation, the lack of financial resources to pay for school, and the absence of a network to offer support through the social transition of college.

Many college students enroll in higher education thinking they are prepared for college-level work, only to discover a gap between what was expected at their high school and what is expected when they arrive on college campuses. This is common even within the same state and even if both institutions are public schools. As many as one in five freshmen report being placed in remedial courses¹², and half of all college students eventually take at least one remedial, not-for-credit course at some point during their college career.¹³ These students face additional time and financial costs, leading to lower retention and graduation rates.

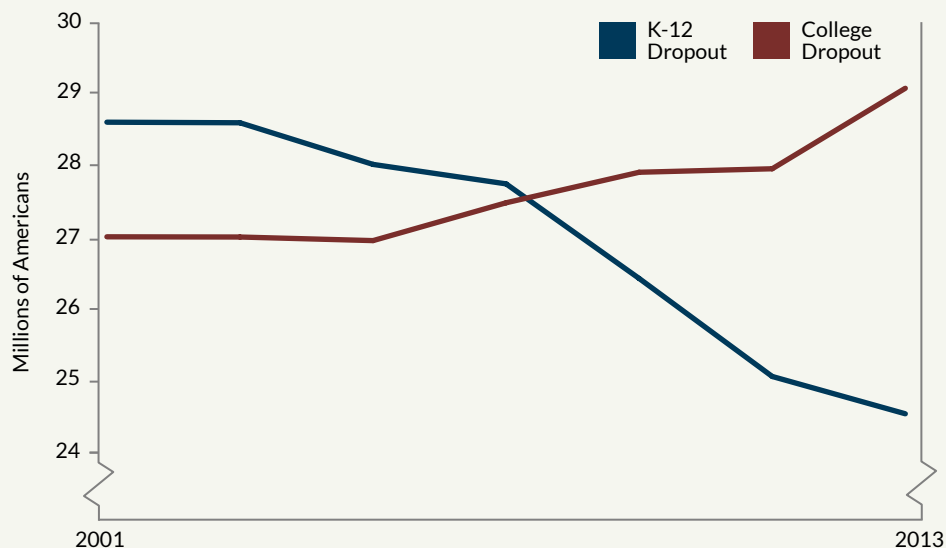
The combination of near-universal high school graduation rates and stagnant college graduation rates results in slow growth in overall educational attainment. Americans saw dramatic increases in educational attainment in the first half of the 20th century, but the

Many students discover a gap between what was expected at their high school and what is expected when they arrive on college campuses.

pace slowed. As the percentage of American adults with a high school diploma or GED reached nearly 90 percent, the country failed to make progress in postsecondary education. Other countries have dramatically increased the likelihood that their citizens will earn a college degree, but in the U.S. it has barely risen at all.

The consequences of these trends show up in the broader American workforce. In 2009, the U.S. quietly hit a new milestone: There are now more American adults who have dropped out of college than there are American adults who haven't completed a high school degree (see Figure 2). The numbers bounce slightly year-to-year, but it's safe to predict that this trend will only accelerate in the future as older generations with lower educational attainment rates are gradually replaced by new generations with higher attainment rates. As of 2013, there were 29.1 million college dropouts versus 24.5 million Americans who dropped out with less than a high school diploma. In pure, raw numbers, college dropouts are a bigger problem than high school dropouts.

Figure 2 > College Dropouts Now Outnumber K-12 Dropouts



Sources: "Current Population Survey," U.S. Census Bureau. "Educational Attainment of the Population 25 Years and Over, by Selected Characteristics," *Integrated Postsecondary Education Data System (IPEDS)*, U.S. Department of Education, National Center for Education Statistics.

Note: Data represent the number of American adults over age 25. "K-12 Dropouts" includes all adults with less than a high school diploma or its equivalent. "College Dropouts" represent all adults indicating they had "some college, no degree" minus the number of American adults over the age of 25 who were enrolled in higher education and seeking their first postsecondary credential or degree.

There is nearly unlimited upside potential from getting more Americans into and through some form of postsecondary education.

Continuing to focus primarily on high school graduation rates at the expense of other success indicators will not—cannot—jump-start progress. Today, even if every single American adult without a high school diploma or its equivalent managed to earn one, the average years of schooling could increase by less than half a year, from an average of 13.6 years of schooling to 14.0.¹⁴ In contrast, there is nearly unlimited upside potential from getting more Americans into and through some form of postsecondary education. That would be beneficial both to the affected individuals and for society writ large.

High schools alone cannot fix this problem. Policymakers have multiple levers at their disposal to try to improve educational outcomes—indeed, states should not let higher education institutions off the hook for oversubscribing students to remedial courses or for failing to graduate large portions of their students—but state leaders should ensure that public high schools and public colleges align their expectations about what it means to be ready for college. High school policies also have an important role to play. States should more clearly signal that high schools are responsible for adequately preparing students for life after graduation.



Policies to Meet the Next Challenges

American policymakers have started to pay attention to these issues. In the name of “college and career readiness,” states have adopted more rigorous academic standards, increased graduation requirements, and improved access to advanced courses.

Some reformers see new, more rigorous state standards and assessments as a solution to this problem. But the problem is not merely one of rigor; it’s also about alignment between K-12 and higher education systems. For example, Massachusetts has long had some of the strongest academic standards in the country—standards that researchers found were internationally competitive and either on par with or slightly better than the new Common Core state standards.¹⁵ But when Massachusetts studied remediation rates at its public colleges and universities, it found that 37 percent of public high school graduates enrolled in at least one remedial course in their first semester in college.¹⁶ In other words, despite strong standards, Massachusetts college freshmen actually had remediation rates that were *higher* than the national average.

Even with high-quality standards, most states have not fully aligned their K-12 and higher education systems.

The Massachusetts conundrum suggests that policy *alignment* between a state's K-12 and higher education systems is at least as big a problem as the *quality* of the state's standards. As of April 2015, Delaware, Washington, and West Virginia had announced policies ensuring that students who score at the "college-ready" level on new assessments aligned to the Common Core would place into credit-bearing courses.¹⁷ Many other higher education leaders have expressed support for the Common Core and higher standards in general, but they have thus far stopped short of enacting policies ensuring alignment between K-12 standards and higher education admissions and remediation policies.¹⁸ Even with the Common Core or other high-quality standards, most states have not addressed the alignment issue between their K-12 and higher education systems.

Perhaps most fundamentally, secondary schools need to move more students beyond basic proficiency and toward higher-order skills and accomplishments. Current K-12 accountability measures do little to solve this problem. The next section of this paper uses a unique set of publicly available data collected by the Tennessee State Collaborative on Reforming Education (SCORE) from the state department of education to illustrate that while student test scores and graduation rates are a useful proxy for longer-term outcomes, they aren't perfect substitutes. If state leaders value metrics like college-going in how they define a successful high school experience, they aren't fully capturing it with current measures.

Background on the SCORE Prize Data

SCORE is an independent, nonprofit, and nonpartisan advocacy and research institution that supports Tennessee's goal of preparing students for college and the workforce. Among other research and policy priorities, SCORE runs an annual competition to identify and reward schools and districts successfully preparing students for success after high school. Each year, it recognizes one elementary school, one middle school, one high school, and one school district. All public schools in the state are eligible, provided they have sufficient data and can be accurately placed into one of the prize categories (e.g., a school with insufficient data or with only narrow grade configurations may not qualify).

The SCORE Prize utilizes a data set that goes beyond traditional high school accountability measures to include college-readiness and college-going. SCORE partners with an independent, nonprofit organization to provide research, development, and technical services. School names are de-identified to ensure that bias does not affect the SCORE Prize review committee, composed of state and national education leaders.¹⁹ SCORE works with the Tennessee Department of Education, Tennessee Higher Education Commission, and other organizations to collect the data and ensure its accuracy.

SCORE collects three years' worth of data and results on:

- Reading and math proficiency rates on the state assessment, the Tennessee Comprehensive Assessment Program (TCAP).
- Student growth on TCAP, as calculated from the Tennessee Value-Added Assessment System (TVAAS).
- ACT scores (all Tennessee students are required to take the ACT).
- ACT growth as measured by TVAAS.
- High school graduation rates.
- College-going rates (to any public or private two- or four-year college or university across the country).

In addition, SCORE considers contextual data on the percentage of students eligible for free or reduced-price lunch (FRPL, a proxy measure for income), school type, achievement gap sizes and changes, geographic location, attendance rate, and the number of students who take and pass Advanced Placement courses.

After using the quantitative data to narrow the list to three finalists in each category, the committee conducts in-person site visits in order to observe classrooms and speak with teachers and school leaders. Finally, the committee balances the original data analyses with the qualitative reviews to select winners in each category. The winners are then honored at a public ceremony and receive awards of \$10,000 for school winners or \$25,000 for the district winner.²⁰

Evidence from Tennessee

Data collected as part of the Tennessee SCORE Prize help illustrate the problems with the most common ways states currently use to determine high school success. Although the SCORE Prize data do not include all potential measures that policymakers might wish to have—metrics like the college remediation rate or the employment rate are not yet available—they do provide sufficient information to test the current accountability measures against other potential additions. In addition, they show that state accountability choices matter. The measures included in state ratings, as well as how highly those measures are weighted, lead to different conclusions about the same school. In designing their accountability systems, states are implicitly or explicitly choosing to value some things more strongly than others.

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One way to look at how test scores and graduation rates relate to other school measures is to consider the correlations between measures, shown in Figure 3. One notable criticism of accountability measures is that student test scores and graduation rates are associated with poverty rates. As the first column shows, this relationship holds true for students who qualify for FRPL in Tennessee. Other than TVAAS, which explicitly attempts to control for students' incoming characteristics, the other potential accountability measures have strong relationships with FRPL rates.

Figure 3 also shows the extremely strong correlation between the English and math scores on the state's TCAP assessments and ACT scores. As Tennessee transitions away from the TCAP toward a new set of assessments (called TNReady) aligned to the state's new academic content standards, legislators should monitor this alignment and weigh the value behind each set of assessments. For teachers and schools, TNReady may provide more actionable feedback than the ACT about how students are progressing toward meeting the state's academic expectations. For students, the ACT has value in being nationally recognized by colleges and universities, including those in Tennessee, for decisions on admissions and placement.

Figure 3 Correlations between High School Measures in Tennessee

	Free or reduced-price lunch	TCAP (English/ Math Proficiency)	ACT score	TVAAS (growth)	High school graduation rate	College-going rate
Free or reduced-price lunch	1.00					
TCAP (English/ Math Proficiency)	-0.66	1.00				
ACT score	-0.73	0.90	1.00			
TVAAS (growth)	-0.20	0.54	0.33	1.00		
High school graduation rate	-0.39	0.76	0.66	0.51	1.00	
College-going rate	-0.60	0.66	0.77	0.36	0.49	1.00

Source: Author's calculations from Tennessee SCORE Prize data.

To further parse the data, consider which schools would be identified as strong or weak under alternative approaches. As part of No Child Left Behind waivers granted by the Obama administration, states identified a certain, predetermined percentage of low-performing schools. States were required to identify at least five percent of schools as “priority” schools—those with the lowest absolute performance over a given period of time—plus another 10 percent as “focus” schools with large achievement gaps. The cut points and distinctions in this “relative” approach matter, because a school in the 15th percentile may be subject to very different interventions than a school at the 16th percentile, even if their actual results are quite similar.

To show the impact of state choices in determining these cut points, Figure 4 compares different relative ranking approaches. Each approach uses different sets of variables to identify the bottom 10 percent of high schools in the SCORE Prize database.²¹ To be clear, these examples use data from Tennessee but are not meant as simulations of Tennessee’s approach. But they are illustrative in that other states can and do use similar methods to identify schools for improvement.

The overlap in schools falling into the bottom 10 percent of high schools depends on what variables are used to identify them. As a reference point, the first column is the 10 percent of schools with the highest FRPL rate. Subsequent rows and columns use six other ways to rank the bottom 10 percent of high schools:

- English and math proficiency rates.
- Graduation rates.
- The rate of student growth.
- The college-going rate.
- A College-Readiness Index that combines ACT scores, the growth between state tests and ACT scores, the graduation rate, and the college-going rate.
- A Balanced Index that combines, in equal weights, student proficiency scores on the state tests and ACT, student growth on the same two sets of tests, the graduation rate, and the college-going rate.

As the table suggests, most of the lists overlap at least to some extent. None of the lists based on student outcomes match the list based purely on student poverty rates (FRPL), although proficiency and graduation rates have the most overlap with it. None of the measures are not perfect substitutes for each other. For example, slightly more than half of the schools with the lowest student growth are captured by the list of schools with low proficiency rates. The graduation rate list has very little overlap with the list of schools that do a poor job of preparing students to be successful in college. In short, if states care about things like college-going rates or student growth, they aren’t fully capturing them with existing measures.

Figure 4 Assessing the Overlap between Various High School Ranking Approaches

	Highest FRPL	Lowest English and Math Proficiency	Lowest Graduation Rate	Lowest Student Growth	Lowest College-Going Rate	Lowest College-Readiness Index	Lowest Balanced Index
Highest FRPL							
Lowest English and Math Proficiency	32%						
Lowest Graduation Rate	29%	77%					
Lowest Student Growth	19%	55%	0%				
Lowest College-Going Rate	23%	48%	6%	6%			
Lowest College-Readiness Index	6%	55%	13%	10%	10%		
Lowest Balanced Index	16%	81%	74%	68%	52%	65%	

Source: Author's calculations from Tennessee SCORE Prize data.

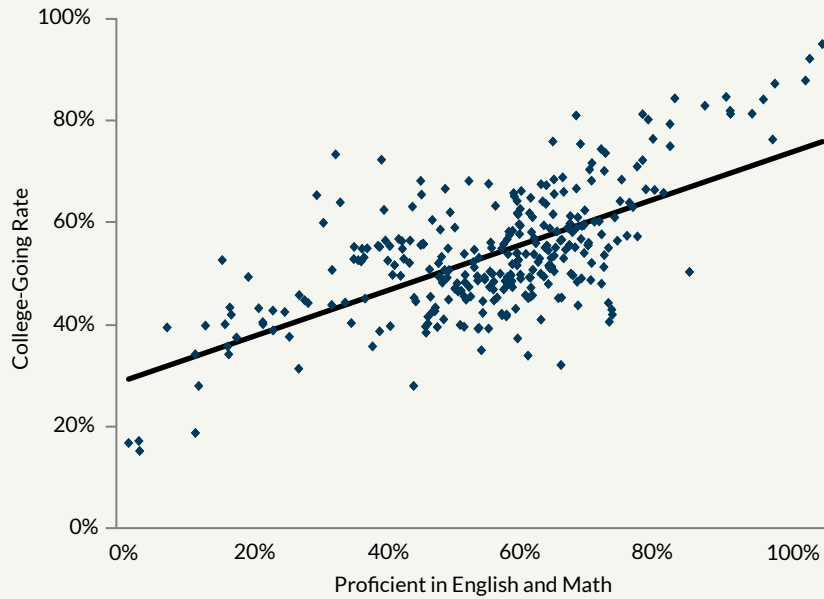
Simple graphs also show a strong linkage between various school outcomes. Figures 5A and 5B show how current accountability measures—student test scores and high school graduation rates—align with the longer-term goal of getting students into college. In both charts, the solid line indicates the “expected” performance of each school, based on how it performs on either test scores or graduation rates. Schools above the line are performing above their expectation, while schools below the line have lower-than-expected performance.

These charts show that current accountability measures do have a good deal of predictive ability. But they also miss schools on both the high and low ends of performance. For example, schools with nearly identical proficiency rates can have almost 50-point differences in the percentage of their graduates who continue on to college. Recent research looking at long-term outcomes of Massachusetts and Texas also found that between-school differences among high schools are more important for college attendance than test scores.²² Similarly, the Tennessee data show that college-going rates can vary tremendously even between schools with very high graduation rates.

Figure 5

Current Accountability Metrics Provide a Useful, If Incomplete View of High School Success

A. The Relationship Between Proficiency Rates and College-Going in Tennessee



B. The Relationship Between Graduation Rates and College-Going in Tennessee



Source: Author's calculations from Tennessee SCORE Prize data.

Note: Each dot represents one Tennessee high school.

Ultimately, test scores and graduation rates are useful but insufficient proxies for college-readiness. College-going rates offer a useful indicator of how well high schools are preparing students to succeed in postsecondary education, but astute readers may also be asking whether all the students who go to college are actually prepared to succeed once enrolled, or whether students who don't go to college are finding success in the labor market. Although the SCORE Prize data set does not allow such comparisons, the next section discusses those trade-offs and proposes a model that states could work toward to measure a more complete range of student outcomes.

A Model High School Accountability System

At their most basic, accountability systems are designed to create a set of incentives. Poorly designed systems create incentives that can be “gamed” in a way that has little relevance to what society actually values. Low-level test-based accountability systems can run into this problem. If schools decide it’s in their best interests to spend time on mindless test-taking strategies rather than rich academic content, schools and districts may work toward goals that are counterproductive or worse.

Anecdotal evidence from the NCLB era suggests it has led to a “teaching to the test” mentality in too many places, causing a backlash against testing and accountability among teachers and parents. The trick, then, is to design a system in which schools are competing on measures that truly matter.

The trick is to design an accountability system in which schools are competing on measures that truly matter.

Figure 6 shows what a ranking system based on these principles could look like. It is merely a model, meaning that states would need to adapt it for their unique contexts and stress-test it with their own data to determine how it worked for their schools in practice. As demonstrated in the Tennessee data above, the choices states make on which measures to include in their accountability system and how those measures are weighted will determine which schools are deemed successes and which are not. There is no “perfect” accountability system, and the weights and measures included in this proposal are a reflection of its author’s values; states may choose to weight things very differently.²³ Those caveats aside, the table offers one attempt to identify schools based on multiple measures of success:

Figure 6

Components of a Model Accountability System

Measured Characteristic	Measure	Percentage of Score	Total
Teaching and School Environment	Academic Engagement	2.5%	5%
	Safe and Supportive Campus Environment	2.5%	
Student Learning and Growth	College-Ready Assessments in Math, Reading, Writing, and Science: Predicted Versus Actual	25%	40%
	Advanced Course Passage Rate	15%	
Progression and Graduation	Annual Progression Rate: Predicted Versus Actual	5%	20%
	Graduation Rates: Predicted Versus Actual	15%	
College and Career Outcomes	College-Going Rate: Predicted Versus Actual	7%	35%
	College Remediation Rate	7%	
	College Credit Accumulation	7%	
	FAFSA Completion Rate	2%	
	Employment Rate	6%	
	Employment Earnings	6%	

To encourage schools to focus on a well-rounded education, the model system includes assessments in math, reading, writing, and science.

Five percent of the new accountability system would be based on **teaching and the school environment**. Rather than input-based proxy measures like faculty credentials, student-teacher ratios, or the availability of rigorous courses, this measure would focus on students' actual interactions with their school and their teachers. Students could complete surveys of academic challenge and the school environment such as those offered by the Tripod Project or other high-quality survey instruments. Researchers have found that these sorts of student surveys are a reliable method for predicting student learning growth.²⁴ Other surveys, such as the High School Survey of Student Engagement, could also potentially be used for this purpose. Created by the Center for Evaluation and Education Policy (CEEP) at Indiana University, the HSSSE (pronounced "HESS-see") is an open-access survey designed to identify student engagement and comfort with the school environment.²⁵

Some cities, charter school management organizations, and the United Kingdom have experimented with an "inspectorate" model as one way to provide qualitative reviews of school quality. (The SCORE Prize review team conducts its own site visits of finalists as a way to get at the same intangible factors that cannot be observed through a school's raw data.) While inspectorate-style reviews may be useful to support or identify a small subset of schools, they are also labor intensive. Another option for states to get annual, comparative, qualitative data across all schools would be surveys. Although they do not provide the same richness of information as inspectorate-style reviews, states could implement statewide surveys as an inexpensive, easy, and comparable method for examining the actual learning environment experienced by students.

A total of 40 percent of the new accountability system would be based on **student learning and growth**. Most states currently rely only on math and reading proficiency rates in their high school accountability systems. To encourage schools to focus on a well-rounded education, the model system includes assessments in math, reading, writing, and science.

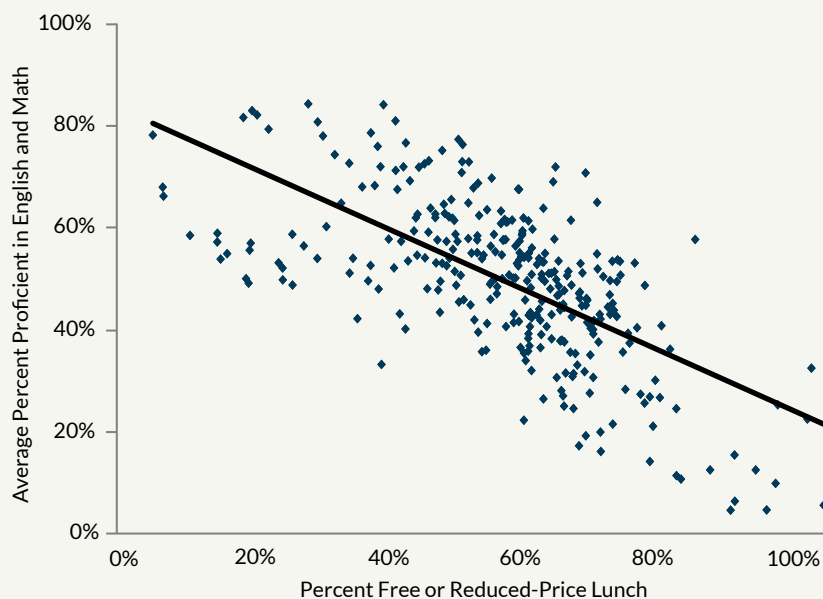
Importantly, because student proficiency rates tend to be closely linked with student background characteristics, the model proposes an alternate approach that would give schools credit for success with the students they're given. It would calculate the difference between what students were *expected* to score—based on their prior test results, attendance rates, and class grades—and how they actually performed.²⁶ This would not explicitly measure student growth—a true student growth measure would require an additional test in order to determine the change in student results over time—but it would use statistical controls as a way to address potential concerns about over-reliance on snapshot achievement measures. These calculations are especially relevant for high school grades, where many states lack sufficient data to calculate a true student growth measure. School and district report cards could include both the raw and adjusted figures—and indeed, students and parents should receive both the raw scores and information on how they performed compared with similar students—but *school* accountability systems should strive to isolate the effects of the school from the effects of the student's background characteristics.

Figure 7 shows how this calculation could work. Each dot represents one Tennessee high school. The solid line shows the “average” or expected performance, given the school’s percentage of low-income students. As mentioned above, there is a strong relationship between the percentage of students who qualify for free or reduced-price lunch and college-going rates. But there are schools that are far above and below what might be expected of them just based on the students they enroll.

Incorporating this information into high school accountability systems would reward schools that consistently outperformed their expectations, while identifying and penalizing schools where students consistently underperformed. The “expected” calculations would naturally incorporate the growth concept into other non-test-based measures, like graduation rates or even college-going rates. Another positive side effect of this approach is that it automatically adjusts to changes in the raw data over time. It naturally compares

Figure 7

Although Poverty Is Related to Student Proficiency Rates, Some Tennessee Schools Perform Better and Worse Than “Expected” by Poverty Alone



Source: Author’s calculations from Tennessee SCORE Prize data.

Note: Each dot represents one Tennessee high school. The solid line indicates the average or “expected” performance for each school, based on the percentage of its students who qualify for free or reduced-price lunch. Schools above the line are performing above their expectation, while schools below the line have lower-than-expected performance.

similar schools against each other, creating a dynamic mechanism that changes as schools improve their performance over time, rather than holding schools accountable for meeting some arbitrary, pre-determined bar.

Fifteen percent of a school's score would be based on advanced course passage rates, calculated as the percentage of students who took and passed at least one advanced course (such as an Advanced Placement, International Baccalaureate, dual enrollment, or career-technical (CTE) course that led to an industry-recognized credential). In order to combat curriculum narrowing, students and schools would earn credit for taking and passing an advanced course in any *subject*, so long as the student completed an externally benchmarked, rigorous set of assessments at the end of the course.

By including CTE on this list, it would also emphasize the fact that career and technical skills are important and can be judged reliably by external assessments. Although the system is officially neutral on the "college for all" question, it does encourage students who decide not to pursue a college path to take steps to succeed in the workforce. An industry-recognized credential, such as the Cisco Certified Entry Networking Technician (CCENT) or those offered by the American Welding Society, are no guarantees of successful employment, but they do give students an entry point into an established career path.

Twenty percent of the new accountability system would be based on **progression and graduation**. To give schools an incentive to pay attention to how students progress during their time in high school, five percent would be based on the school's expected versus actual progression rate to ensure schools were responsible for the timely progression of all students. There's widespread interest among policymakers in focusing on "choke points" such as 9th grade, when many students drop out after the transition into high school. While important, there's no need to focus exclusively on single grade levels. Some schools may respond by focusing their retention efforts on 9th graders if that is where they had particularly high rates of turnover.

Another 15 percent would be based on the school's predicted versus actual graduation rate. Simply staying in school is not sufficient; a large body of research has found a "sheepskin" effect in education, whereby employers pay a premium for individuals who complete a degree. Because this calculation would automatically give schools more credit for graduating students who were at-risk of dropping out, the accountability system would not need to include a separate graduation rate measure for traditionally under-performing subgroups.

Both of the progression and graduation measures would be cohort-adjusted, meaning they would give schools an incentive to retain and graduate their students without being punished for students who do legitimately change schools. Historically, graduation rates

School accountability systems should strive to isolate the effects of the school from the effects of the student's background characteristics.

were calculated by dividing the total number of graduates in a given year by the total number of students who started as a freshman cohort four years before. A cohort-adjusted measure, in contrast, adds in any incoming transfer students and subtracts out students who transfer to another school.

Thirty-five percent of the new accountability system would be based on **college and career outcomes**. Since roughly two-thirds of high school students now go directly to college, roughly two-thirds of this outcome measure (21 out of 35) would be based on the percentage of students who go on to college, avoid remediation classes, and begin to accumulate college credit on the path toward college completion. This would not be limited solely to students attending four-year liberal arts colleges. Instead, it would include all students attending any form of postsecondary education, including those pursuing two-year associate degrees or shorter certificate programs.

Another two percent would be based on FAFSA completion rates, the percentage of students who complete the Free Application for Federal Student Aid. Although the index is neutral on whether students actually go to college, it does encourage schools to ensure that all students are prepared for it. The FAFSA is one important step of that preparation. Research suggests that students are more likely to attend college if they know how much aid they're eligible for; helping students complete a FAFSA can increase the number of students who receive financial aid, the amount of aid they receive, and even the proportion of students who enroll in college. The American Council on Education estimates that nearly one in five low-income students enrolled in college who would be eligible for federal Pell Grants never completes a FAFSA.²⁷

States are relying on imperfect substitutes that will never fully bridge the gap between K-12, higher education, and the workforce.

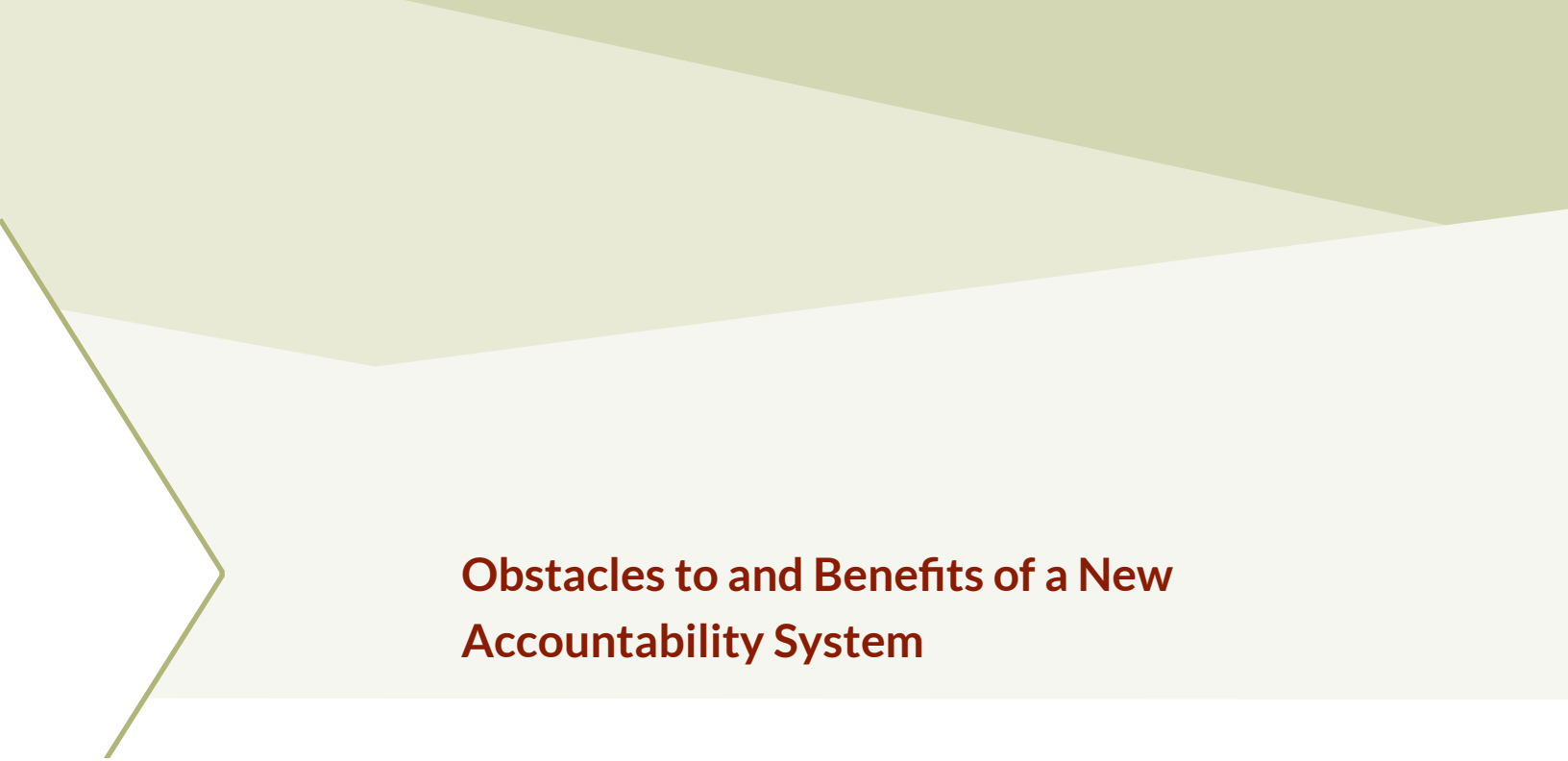
FAFSA completion rates are included here because they're freely available and are a powerful symbolic message to send to schools and students. But, they're weighted at just two percent in the index because they could quickly become a freebie in places that made a concerted effort to drive up their rates. Some states or cities that have strong incentive programs such as scholarship funds already place a priority on FAFSA completion. For example, when Tennessee introduced a free community college program that relied on the FAFSA for eligibility, FAFSA completion rates jumped from 42 percent to 61 percent in a single year.²⁸

In order to account for students who chose not to attend some form of college, another 12 percent of the accountability system would be based on the percentage of graduates employed in full-time jobs earning at least enough to avoid qualifying for federal food stamps (the income threshold for aid from the Supplemental Nutrition Assistance Program for individuals is currently set at \$15,180 per year), as measured one and three years after high school graduation. This measure would give high schools credit for students who choose not to go to college so long as they were on a path that did not need government support. States could choose to set more ambitious income targets, but students who join the military or are otherwise gainfully employed in a job paying a living wage should not count against a high school.

If a state wanted to be entirely neutral over whether students went to college, it could readjust these allocations to be entirely even. Alternatively, if a state wanted to further encourage students to attend some form of postsecondary education, it could boost the value of the college outcomes component.

States should, however, alter the weighting of their accountability systems based on their unique situations. The model presented above is merely one option, and states or districts could choose to vary it in key ways based on their own context, priorities, and data availability.

Some states have begun creating accountability systems that look similar, on their face, to this proposal but which differ in key ways. They typically do not attempt to measure growth through adaptations such as comparing predicted-versus-actual outcomes. They tend to place too heavy of an emphasis on math and reading test score proficiency rates, and they stop short of truly holding schools accountable for their students' success in college or careers. In sum, states are relying on imperfect substitutes that will never fully bridge the gap between K-12, higher education, and the workforce.²⁹



Obstacles to and Benefits of a New Accountability System

Although there would be costs associated with this system, most of the items listed above are free or are already covered under existing state systems. For example, the Tripod Project and HSSSE surveys are now freely available to anyone who would like to use them; administration and analysis would take some staff time, but there would be no design costs. On the flip side, there would be some start-up costs associated with determining the initial formulas for the “expected” test scores, progression rates, and college-going rates. But once those have been estimated, states could keep the formulas more or less in place and revisit them only every few years.

Many of the other elements are already in place. As part of the requirements of NCLB, states are already administering some form of reading and math accountability test in high school. Those tests could stay the same under this proposal, or they could shift to external providers like the ACT or SAT that are already recognized by colleges and universities. Similarly, all states as part of the 2009 stimulus act committed to tracking and reporting college-going and credit accumulation rates. And the U.S. Department of Education now releases school-level FAFSA completion data in real-time each spring.³⁰

Most states would need to invest in data systems to compile and sort the data and to track high school students transitioning into the workforce. But evidence from Florida, which has been publicly reporting employment and earnings information since the mid-2000s, suggests that it need not be cost prohibitive. Florida incurred a cost of \$6 million to link over 10 million individual student records when it began reporting the data.³¹

Although Florida's experience may be atypical, and the workforce component may be particularly challenging for other states to replicate, there are at least cost-effective ways to get the higher education data. For example, the National Student Clearinghouse, a nonprofit that originally began as a way for colleges to easily verify student enrollment and completions, now has enrollment, persistence, and completion information from 3,300 colleges and universities covering more than 93 percent of all postsecondary students in the U.S. For a fee of \$425 per school, the Clearinghouse will provide high schools with detailed reports on up to eight years of graduates.³² With roughly 25,000 high schools in the United States, the Clearinghouse could provide every single high school with college enrollment, persistence, and completion rates for \$10.6 million. That is not a small figure, but it's far less than states and districts currently spend on testing (\$1.7 billion³³), and it's tiny compared with the \$594 billion that K-12 schools spend in the aggregate each year.³⁴

There are political and logistical challenges to implementing all of the data elements envisioned under a model accountability system. This is especially true in the short term, but costs alone should not prevent states from implementing other elements of the system.

Another challenge is the fact that some measures of a school's success may not be available for years down the road, limiting the utility of the information for rapid response. But the philosophical question about how to weight, think about, and use data on student outcomes suggests that it's important to include a mix of outcomes. Accountability systems must balance both shorter-term indicators with almost immediate results (like student surveys and FAFSA completion data, which are now available on a weekly basis) and longer-term outcomes from student experiences in college and careers. In the long run, including multiple years of data and focusing on multiyear averages will lead to more stable results. Besides, longer-term outcomes on things that are more meaningful may help drive a greater sense of accomplishment (or urgency to change) that are lacking when relying only on shorter-term results.

A system without a formal accountability structure still operates within its own set of informal incentives.

When incorporating multiple years of data into one summative rating, states must also mitigate against schools being trapped in bad cycles where one or two years of bad outcomes becomes part of the school's record for several more years. A similar challenge applies to new schools without sufficient long-term results. In moving to an accountability system with multiple years of data, states must implement processes and decision rules about what to do in these circumstances. For instance, a state may want to hold off rating a new school until it has sufficient data. For other schools, a state could incorporate multiple years of data into its rating system but place higher weights on more recent data.

Accountability opponents may suggest that a better alternative to slowly improving accountability systems would simply be no accountability system. But a system without a formal accountability structure still operates within its own set of informal incentives. Without good information about school success, parents, students, and policymakers

must make decisions based on secondhand information from third-party sources. Low-income families will be the most disadvantaged. Schools with larger concentrations of disadvantaged students will appear worse simply because they have older facilities or because they have lower scores on achievement tests. But those have little to do with the quality of learning that goes on within the school walls. Until states design accountability systems that parents and families trust to measure what matters to them, decisions based on superficial appearances will prevail. Low-information, low-income families will continue to lose out.

Public school accountability systems should measure what society values out of its public schools.

Replacing current high school accountability systems with new, more robust ones would have a number of important benefits.

First, although there has been a push in recent years toward more commonality across states, measures like AP, IB, SAT, and ACT tests bring trusted, third-party verification and greater national comparability than what exists today.

Second, the pipeline from high school to college and careers will never be seamless unless policies attempt to clear out barriers. By explicitly linking K-12 with what comes next for students, the schools and districts will have an incentive and a responsibility to ensure that their offerings align with college and careers. It may also encourage them to embrace partnerships with local colleges and universities. Data linkages alone won't solve the problems but would at least bring needed attention to the issue and begin to break down unnecessary silos between K-12, higher education, and the workforce.

Third, one of the most oft-repeated criticisms of NCLB is that it placed too much emphasis on low-level standardized tests. The accountability system proposed above would be much tougher to game, and it would reward schools that did a good job of preparing well-rounded students. Schools that were exclusively focused on low-level math and reading tests would likely not score well on surveys of student engagement, and they may have difficulty showing sufficient student progress. Perhaps most importantly, there's simply no way for a high school to artificially boost student success rates in college and careers. The only viable path would be to help all students become prepared academically and socially. It may even encourage schools to focus on more of the soft skills—like perseverance, grit, and higher-order thinking skills—that are essential to success in life. The goal should be to create a set of incentives for schools to improve on things that matter in the real world, to society, employers, parents, and individual students. Public school accountability systems should measure what society values out of its public schools.

Action Items and Conclusion

After decades of attention on basic skills tests and graduation rates, policymakers should now begin to address the next generation of challenges. They should recognize the large college dropout problem as troubling for both the affected individuals and for the United States as a country. Improving student preparation at the high school level will not be sufficient to solve all of the problems that ail our educational system, but it is an underutilized tool for improvement. If the United States truly embraced the goal of college and career readiness, its policymakers would think differently about how students are prepared and how high schools are held accountable for results. Federal and state policymakers would make different decisions about high schools.

At the federal level, policymakers should:

- **Design the broad parameters of high school accountability rules but leave the particulars up to individual states.** For example, when NCLB is finally reauthorized, federal officials should encourage states to include at least student proficiency rates, student growth, graduation rates, and college- and career-readiness measures. That would set a framework for a broad base of measures while allowing states to develop their own systems tailored to their unique contexts and needs.
- **Address graduation rates differently.** Concentrated pockets of low graduation rates require a different set of policy solutions than whole-scale problems. In recent years, the U.S. Department of Education—justifiably—drove more resources and attention toward high school dropout factories, but it did this with a blunt rule. In asking states to identify their bottom five percent of schools for the most intense interventions and

support, the federal government also required all states to identify any high school with a graduation rate less than 60 percent. Sixty percent is a commonly accepted definition of a high school dropout factory, but it applies very differently in states like Maryland or Virginia, with statewide graduation rates of 84 percent and 83 percent, respectively, than it does in Washington, D.C., with its 59 percent statewide average. This rule meant far more high schools were identified for improvement in places like D.C. than in Maryland or Virginia.

- **Ensure that high schools are adequately included in accountability systems.** Federal and state accountability rules have historically placed a disproportionate focus on elementary and middle schools. Existing requirements, like the 60 percent rule mentioned above, have done little to change this situation. For example, according to data compiled by Tennessee SCORE, only 10 Tennessee high schools have a graduation rate falling below the federal cut-off for more intense interventions of 60 percent. That's only about three percent of all high schools in the state, or 0.56 percent of the total number of schools in the SCORE statewide database. Without additional parameters, high schools would continue being the forgotten link in the K-12 pipeline. Instead, when states are required to select certain percentages of schools for intervention efforts, they should be asked to identify at least a proportionate share of schools across all grade levels.
- **Continue funding investments in data systems.** Congress has invested more than \$500 million in state data systems in recent years, providing states the opportunity to upgrade their data infrastructure. What's largely still missing and should be more integral in future grants is helping states use the new data systems to develop processes that drive continuous improvement among schools and districts.

States deserve much of the blame for the failure to advance high school accountability systems. They have yet to use the dividends of the federal government's investments in data systems. Even when given the option to design new accountability systems as part of the NCLB waiver initiative, few states incorporated actual measures of college and career success. Leading states should be applauded for their efforts so far, but nearly every state could improve its high school policies by:

- **Creating richer, more accurate, more multidimensional measures of high school success.** They could start by using old data in new ways, such as using multiple years of student achievement results instead of relying on a single year or "predicting" school results based on prior student outcomes and rewarding schools for exceeding expectations. Next, they could add freely available data sources like FAFSA completion rates or Advanced Placement test-taking and passing rates.

Over time, states should develop a plan to incorporate new data elements such as college-going and success rates, and employment outcomes. By phasing new indicators in over time, states can signal what they value and then introduce new measures as

they become available. As states add new measures, at first they might want to share data for informational purposes only and then slowly increase the weighting in the index. That would help build buy-in for the system and ensure that schools and districts have a chance to see the information and get familiar with the data before they're actually held accountable for it.

- **Investing in their own data systems.** Although the federal government has been a large investor in state data systems, states should take responsibility for expanding their own capacity. They should lay out a careful plan to collect data elements that will be put to use and to use the data in responsible ways that protect student privacy. But states could be collecting much more information and using existing data sources in much more creative ways.
- **Fully aligning the state's public education systems.** Some states have "P-20" councils that seek to tackle issues that cross early childhood, elementary and secondary education, and postsecondary education sectors. But states could do much more to ensure that expectations are aligned across their public institutions of education. At a minimum, states should ensure that their K-12 schools and colleges and universities are using the same definition of "college-ready" so that students do not have to spend unnecessary time and expense taking remedial coursework on college campuses.

These steps would help get the American educational system out of a strange paradox. Reading and math achievement levels are increasing for 4th- and 8th-graders but have barely budged for high school students. High school graduation rates are at all-time highs, and more students are going to and persisting in college. Meanwhile, overall educational attainment levels have slowed considerably, to the point that the United States is now 14th on a measure in which it used to lead the world.³⁵

State and federal policymakers must use a different set of policies to address these new challenges. The focus on low-level academic skills and high school graduation rates were useful proxy measures, but they won't be sufficient to drive dramatic improvements going forward. Instead, states must develop new ways of defining success and ensure that high schools are truly preparing students for college or careers.

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Acknowledgments

The author would like to thank the individuals who shared their knowledge and perspectives for this paper, including Brad Jupp, Christy Hovanetz, Rae Ann Knopf, Bill Tucker, Anne Hyslop, Michael Dannenberg, Cory Curl, and Alissa Peltzman. I'm particularly grateful to Drew Jacobs, SCORE's Director of Data and Research, for his collaboration on this project and feedback on earlier drafts. I would also like to thank my Bellwether colleagues Sara Mead and Andy Rotherham for their support and input on this work.

Finally, I would like to thank the Bill & Melinda Gates Foundation for providing funding for this project and Tennessee SCORE for supplying de-identified data on Tennessee's schools. The views and analysis in this report are the responsibility of the author alone and do not necessarily reflect the views of the Bill & Melinda Gates Foundation, SCORE, the Tennessee Department of Education, or the Tennessee Higher Education Commission. Any opinions expressed herein are those of the author alone, as are any errors of fact or analysis, and should not be attributed to any other individual or organization.



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